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## Ooey GUI: The Messy Protection of Graphical User Interfaces

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# N O R T H W E S T E R N JOURNAL OF TECHNOLOGY AND INTELLECTUAL PROPERTY

## **Ooey GUI: The Messy Protection of Graphical User Interfaces**

Rachel Stigler



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## **Ooey GUI: The Messy Protection of Graphical User Interfaces**

## By Rachel Stigler\*

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### INTRODUCTION

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Software companies continue to fiercely contend for their share of the marketplace, and securing rights over software graphics has become increasingly significant in that battle. Yet, the graphical user interface (GUI, pronounced "gooey"), the visual display through which a user interacts with software, remains virtually unprotected under current U.S. intellectual property laws. As such, software designers, including both individual entrepreneurs and large companies, have little means of protecting this increasingly

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important intellectual property. Copyright law offers little protection for GUIs, protecting only exact knock-offs of the design. Trade dress, which protects against confusingly similar designs, takes time to establish, requiring a GUI design to reach near-famous status before reaping any protection benefits. Design patents provide a larger scope of protection than that provided by copyright and trade dress, protecting GUIs as a whole from substantially similar copies. However, design patents are expensive to obtain and last too long, upsetting the delicate balance between a designer's rights and those of society. Despite the availability of these overlapping legal theories, the current regime is ill-suited for GUI designs, and a gap in protection remains. To remedy this, a hybrid legal theory—one built upon existing legal regimes but specifically tailored to GUIs—is needed.

Part I of this paper introduces the "graphical user interface" and provides a brief history of its creation; Part II discusses why GUI protection is necessary and sets forth the theories underlying intellectual property protection; Part III explains current GUI protection regimes and highlights the strengths and weaknesses of each; and Part IV proposes a hybrid solution for GUI protection, discussing both the benefits and the potential problems of the proposal.

## I. HELLO GUI, PLEASED TO MEET YOU

## A. What is a GUI?

A graphical user interface, or GUI, is a "computer environment" that allows a user to interact with the computer through visual elements such as icons, "pull-down menus, pointers, pointing devices, buttons, scroll bars, windows, transitional animations, and dialog boxes."<sup>1</sup> "By selecting one of these graphical elements, through either use of a mouse or a selection from a menu, the user can initiate different activities, such as starting a program or printing a document."<sup>2</sup> Some examples of GUIs include operating systems (e.g., Microsoft Windows,<sup>3</sup> Apple's Mac OSX Lion<sup>4</sup>); smartphone screens (e.g., Apple iOS 6,<sup>5</sup> Windows Phone 8,<sup>6</sup> and Android 4.2<sup>7</sup>); computer programs (e.g., Microsoft

<sup>&</sup>lt;sup>1</sup> COMPACT AMERICAN DICTIONARY OF COMPUTER WORDS: AN A TO Z GUIDE TO HARDWARE, SOFTWARE, AND CYBERSPACE (ed. by American Heritage Dictionaries, 1998); *see also* GRAPHICAL USER INTERFACE (GUI), WEBSTER'S NEW WORLD COMPUTER DICTIONARY (10th ed. 2003), *available at* http://nucat.library.northwestern.edu/cgi-bin/Pwebrecon.cgi?BBID=5661532.

<sup>&</sup>lt;sup>2</sup> Graphical User Interface Law & Legal Definition, USLEGAL.COM,

http://definitions.uslegal.com/g/graphical-user-interface/ (last visited June 25, 2014).

<sup>&</sup>lt;sup>3</sup> *Microsoft Windows – Evolutions*, INFORMATION TECHNOLOGY BLOG (Nov. 24, 2010, 3:02 PM), http://learntechnologiesonline.blogspot.com/2010/11/microsoft-windows-evolutions.html (displaying the

Microsoft Windows GUI from Windows 1.0 in 1985 through Windows 8 in 2010).

<sup>&</sup>lt;sup>4</sup> *Mac OSX Lion screen.png*, WIKIPEDIA, http://en.wikipedia.org/wiki/File:Mac\_OSX\_Lion\_screen.png (last visited Jan. 27, 2013); *see also The History of the GUI Flipbook*, DIPITY (last updated Nov. 17, 2009, 1:42 PM), http://www.dipity.com/hewittteacher/The History of the GUI/#flip.

<sup>&</sup>lt;sup>5</sup> Apple iOS 6 HomeScreen.png, WIKIPEDIA, http://en.wikipedia.org/wiki/File:IOS\_6\_Home\_Screen.png (last visited June 25, 2014).

<sup>&</sup>lt;sup>6</sup> Windows Phone 8 StartScreen.png, WIKIPEDIA, http://en.wikipedia.org/wiki/File:Windows\_Phone\_8\_StartScreen.png (last visited June 25, 2014).

<sup>&</sup>lt;sup>7</sup> Android 4.2 on the

*Nexus4.png*, WIKIPEDIA, http://en.wikipedia.org/wiki/File:Android\_4.2\_on\_the\_Nexus\_4.png (last visited June 25, 2014).

Word,<sup>8</sup> Adobe Photoshop<sup>9</sup>); mobile applications (e.g., iBooks for iPhone,<sup>10</sup> Facebook for Android<sup>11</sup>); and television menus (e.g., DirecTV's channel selection guide<sup>12</sup>) (see Figure 1 for visual examples of these GUIs).<sup>13</sup>

**¶**4

It is important to note that GUIs are the *visual aspects* of these applications, and not the underlying code (i.e., "source code" and "object code").<sup>14</sup> For example, from the moment a user executes a command to the time the computer performs the desired function, multiple layers of interaction occur within software. As the user interacts with a GUI, i.e., the graphics displayed on the screen; the GUI, in turn, communicates through the software's underlying code; and the software performs the user's desired function.<sup>15</sup> Typically, and how it will be used throughout this paper, a "user interface" refers to the underlying *non-graphic* code of a software program, while the term "GUI" or "graphical user interface" refers to the visual elements, i.e., the "look," of the program. This paper will focus on the *graphical* user interface: the GUI.

<sup>&</sup>lt;sup>8</sup> *Microsoft Word for Mac 2011.png*, WIKIPEDIA, http://en.wikipedia.org/wiki/File:Microsoft\_Word\_for\_Mac\_2011.png (last visited June 25, 2014).

<sup>&</sup>lt;sup>9</sup> Adobe Photoshop screenshot.png, WIKIPEDIA, http://en.wikipedia.org/wiki/File:Adobe\_Photoshop\_scr eenshot.png (last visited June 25, 2014).

<sup>&</sup>lt;sup>10</sup> *iBooks Screenshot.png*, WIKIPEDIA, http://en.wikipedia.org/wiki/File:IBooks\_Screenshot.png (last visited June 25, 2014).

<sup>&</sup>lt;sup>11</sup> Matt Buchanen, *Official Android Facebook App Coming as Soon as This Week*, GIZMODO (July 28, 2009, 9:45 PM), http://gizmodo.com/5325090/official-android-facebook-app-coming-as-soon-as-this-week (showing image of Facebook for Android) (*image available at* http://i.kinja-img.com/gawker-media/image/upload/s--h1PNeBKy--/c\_fit,w\_320/18mlrkp4q25d4jpg.jpg).

<sup>&</sup>lt;sup>12</sup> Ben Drawbaugh, *DirecTV's Latest HD Interface Comes to the Five Tuner HR34 DVR*, ENGADGET (Mar. 29, 2012, 12:48 AM), http://www.engadget.com/2012/03/29/directvs-latest-hd-interface-comes-to-the-five-tuner-hr34-dvr/ (showing image of DirecTV graphical user interface).

<sup>&</sup>lt;sup>13</sup> For a broad overview of computer GUIs, see Jeremy Reimer, *A History of the GUI*, ARS TECHNICA (May 5, 2005, 1:40 AM), http://arstechnica.com/features/2005/05/gui/.

<sup>&</sup>lt;sup>14</sup> Courts often, and confusingly, use the term "user interface" interchangeably for both the graphic and non-graphic user interface, though the law treats the two differently.

<sup>&</sup>lt;sup>15</sup> Jane M. Rolling, *No Protection, No Progress for Graphical User Interfaces*, 2 MARQ. INTELL. PROP. L. REV. 157, 166 n.40 (1998) (describing the difference between "source code" and "object code").



Figure 1

### B. Life Before the GUI

**¶**5 Before GUIs, users would communicate with a computer using either a command line interface or a menu interface. Using a command line interface, a user would enter a line of code into a text box, called a command line, on the computer screen. For example, to save a file using a command line interface, the user would type: "copy, c, colon, document name, dot, doc, space, a, colon, backslash, return" backslash. (copy c:/DocumentName.doc a:/).<sup>16</sup> The computer would then save the document. In a menu interface, the software would display a series of text commands from which the user could choose, similar to the drop-down menus used today. To save a file using a menu interface, a user would click on the text command "File," at which point the computer would display a drop-down list of additional text commands, e.g., "Save," "Print" or "Close." By clicking on the text command "Save," the computer would automatically enter command line text-like that mentioned above-to the tell the computer to save the document. Before GUIs, the command line and menu interfaces were alone on the screen with no desktop pictures and no icons to drag. Today, however, these menu interfaces are integrated into the GUI operating system, so a user can choose from a variety of ways to execute a single command.

## C. The Birth of the GUI and its Rise to Stardom

In the early 1970s, GUIs made a dramatic entrance into the world. The Xerox Corporation, which was primarily a copy machine company at the time, was afraid that if people started reading documents only on computers, Xerox would be out of business.<sup>17</sup> So, the company invested in the burgeoning technology industry in an attempt to supplement its *real* paper business with *virtual* paper.<sup>18</sup> To do this, Xerox created the Palo Alto Research Center (PARC) in 1971.<sup>19</sup> In 1973, Xerox created the *Alto*, arguably the first personal computer, which contained the first GUI.<sup>20</sup> The GUI morphed the traditional physical desktop into a virtual desktop upon which digital icons, e.g. images of file folders and trash cans, could be placed and manipulated, mimicking the user's desktop experience in the real world. Xerox was unable to market the GUI, due largely to differences in the vision between PARC and the Xerox Corporate Headquarters in New York.<sup>21</sup> Then, in 1979, Xerox gave Steve Jobs, who had co-created Apple only three years before, a tour of the PARC facility and Alto's GUI.<sup>22</sup> Jobs was so impressed with the GUI that he returned with his entire programming team and demanded they have a tour too.<sup>23</sup> Soon thereafter, Apple incorporated a GUI into the operating software of its personal computers the Lena and Apple II, basing those GUIs on Xerox's desktop metaphor.<sup>24</sup> Although Apple appropriated the idea of the GUI from Xerox, Apple secured

<sup>&</sup>lt;sup>16</sup> Rolling, *supra* note 15, at 164 n.33.

<sup>&</sup>lt;sup>17</sup> Triumph of the Nerds, Parts I, II, & III (PBS television broadcast, Aug. 26, 1997) (A transcript of the program is available at http://www.pbs.org/nerds/transcript.html (last visited June 25, 2014)).

Id.

<sup>&</sup>lt;sup>19</sup> *Id*.  $^{20}$  *Id*.

<sup>&</sup>lt;sup>21</sup> Id. See also STEVE JOBS: THE LOST INTERVIEW (Magnolia Pictures 2012).

<sup>&</sup>lt;sup>22</sup> Triumph of the Nerds, Parts I, II, & III, (PBS television broadcast, Aug. 26, 1997).

<sup>&</sup>lt;sup>23</sup> Id.

<sup>&</sup>lt;sup>24</sup> Id. Interestingly, "many former Xerox PARC engineers found new jobs with Apple." Jeremy

a copyright registration over its own GUI version as an audiovisual work.<sup>25</sup> Other companies such as Microsoft Corporation (Microsoft) and the Hewlett-Packard Company (HP) soon followed suit, licensing portions of the GUI from Apple, and the desktop metaphor became the standard for personal computers.<sup>26</sup> Since then, GUIs have expanded far beyond personal computer operating systems, and are found nearly everywhere: in smart phones, tablets, cars. Yet, despite their widespread use and their increasing importance in the marketplace, GUIs receive little legal protection.<sup>27</sup>

## II. WHY PROTECT GUIS?

Two arguments diverge over whether GUIs should receive broad or narrow legal protection. Both are founded in the Intellectual Property Clause of the United States Constitution—Article I, section 8, clause 8—which grants creators the "exclusive right" over their works for a "limited time" for the purpose of promoting the "Progress of Science and useful Arts."<sup>28</sup> The goal is to incentivize creativity and encourage the dissemination of information to society by granting creators limited monopolies over their works.<sup>29</sup> The key issue is how "limited" or expansive these "exclusive right[s]" must be to fulfill the goal of incentivizing progress and innovation. For example, rights must be broad enough to allow the original creator to reap the benefits of the work and recoup the initial investment, but also narrow enough so that future innovators are not deterred from producing further innovations. At its core, the benefit to society is the Constitution's primary goal.

Proponents of narrow GUI protection suggest that strong GUI protection, i.e., granting a GUI creator broad exclusivity over a GUI design, will stifle innovation, favor large companies, and raise barriers of entry into the market.<sup>30</sup> Additionally, some hold that the uncertainty of infringement will create a "chilling effect," preventing second comers from creating important incremental advances on existing GUIs, resulting in less innovation for society. Some argue that incremental advances in the technology industry are more important than giant strides, as second-generation designers making improvements to existing creations increases competition, drives down consumer costs, and forces companies to continually improve products to maintain their market share.<sup>31</sup> Further, allowing such incremental advances provides creators with more tools for

<sup>29</sup> *Id*.

Reimer, *A History of the GUI*, ARS TECHNICA 10 (May 5, 2005), *available at* http://arstechnica.com/features/2005/05/gui/.

<sup>&</sup>lt;sup>25</sup> Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1438 (9th Cir. 1994).

<sup>&</sup>lt;sup>26</sup> Id. at 1438; see also Triumph of the Nerds, Parts I, II, & III.

<sup>&</sup>lt;sup>27</sup> Rolling, *supra* note 15, at 160.

<sup>&</sup>lt;sup>28</sup> U.S. CONST. art. I, § 8, cl. 8 (which empowers Congress "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.").

<sup>&</sup>lt;sup>30</sup> OFFICE OF TECH. ASSESSMENT, OTA-TCT-527, FINDING A BALANCE: COMPUTER SOFTWARE, INTELLECTUAL PROPERTY AND THE CHALLENGE OF TECHNOLOGICAL CHANGE 136 (1992) *available at* http://ota-cdn.fas.org/reports/9215.pdf ("[I]t is argued that the widespread use of patents could change the structure of the software industry in a way that would actually reduce the rate of innovation. . . . [P]atenting favors larger companies. . . . There is a concern that widespread use of patents could reduce smallcompany-based innovation by raising barriers to entry [either by increased costs associated with paying royalties or for prior art searches and patent prosecution].").

<sup>&</sup>lt;sup>31</sup> See Rolling, supra note 15, at 176.

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innovation without the fear of litigation lurking over their shoulders.<sup>32</sup> Compare the operating system GUIs of the Apple iPhone (Figure 2)<sup>33</sup> with the Android (Figure 3)<sup>34</sup> for an example of incremental advances in GUI design. Though some (i.e., Apple) may argue that this is "slavish copying," this example presents the question of "how close is too close," which is an ongoing theme in infringement cases.



Figure 2

¶9

Figure 3

Others, however, support broad GUI protection and assert that stronger GUI exclusivity rights will promote creativity and force larger strides in innovation by requiring competitors to create new innovations rather than merely allowing them to swarm around the most successful designs on the market.<sup>35</sup> Proponents of this view acknowledge that although granting creators a broad scope of protection over GUIs may result in competitors offering similar but incompatible products, it "could [also] lead to competition in [distinctive] product design, producing major advances."<sup>36</sup> The operating system GUIs of the Windows Phone (Figure 4)<sup>37</sup> and the Apple iPhone (Figure 5)<sup>38</sup> provide an example of a larger stride in GUI innovation.

<sup>&</sup>lt;sup>32</sup> *Id.* (explaining how the interdependency of software designers, who act simultaneously as both a "user and provider of information," closely relates to incremental innovation); *see also* Michael Risch, *Functionality and Graphical User Interface Design Patents* 17 STAN. TECH. L. REV. 53, 80 (2013) (stating that "every software creator is also a partial reuser of what came before").

<sup>&</sup>lt;sup>33</sup> Graphical User Interface for a Display Screen or Portion Thereof, U.S. Patent No. D604,305 fig.1 (filed June 23, 2007).

<sup>&</sup>lt;sup>34</sup> Phil Lavelle, Samsung Galaxy S Review: Looks Like an iPhone But Now Tastes Like Gingerbread, TECH RADAR,

<sup>(</sup>July 20, 2011), http://cdn1.mos.techradar.futurecdn.net//Review%20images/TechRadar/Mobile%20phones /Samsung/Samsung%20Galaxy%20S%20Gingerbread%20update/2.%20Interface/SC20110712-195753-900-100.jpg (displaying image of Samsung Galaxy S interface).

<sup>&</sup>lt;sup>35</sup> Joseph Farrell, Standardization and Intellectual Property, 30 JURIMETRICS J. 35-50 (1989).

<sup>&</sup>lt;sup>36</sup> OFFICE OF TECH. ASSESSMENT, OTA-BP-CIT-61, COMPUTER SOFTWARE AND INTELLECTUAL PROPERTY: BACKGROUND PAPER 13 n.15 (1990).

<sup>&</sup>lt;sup>37</sup> Ionut Arghire, *Windows Phone 8 Has Issues with Transferring Large Videos*, SOFTPEDIA.COM (Dec. 8, 2012, 3:51 AM), http://news.softpedia.com/news/Windows-Phone-8-Has-Issues-with-Transferring-Large-Videos-313068.shtml (displaying image of Windows Phone 8 interface, *available at* 

http://news.softpedia.com/newsImage/Windows-Phone-8-Has-Issues-with-Transferring-Large-Videos-2.jpg/).

<sup>&</sup>lt;sup>38</sup>, 305 Patent, fig.1, *supra* note 33.



Figure 4

Figure 5

The two views mentioned above—one for broad protection and one against it—are not entirely at odds with each other. The balance between exclusive yet limited rights cannot be achieved with a one-size-fits-all approach. Different works of intellectual property require varying degrees of rights, exclusivity, and limitations to achieve the constitutional goal of promoting innovation. To determine how limited or exclusive these rights should be for GUIs, the arguments outlined above must be viewed in light of a number of legal theories. These include (A) the economic incentive to create, (B) the needs of efficiency and technological compatibility, and (C) the needs of society and end users.

## A. The Economic Incentive to Create

¶11 Historically, economic incentive has played a central role in intellectual property protection in the United States.<sup>39</sup> Simply, the theory of economic incentive holds that creators should be granted limited monopolies over their works to reward them, by allowing them to recoup their investment, for bringing their works to the public in a timely manner. Without this monopoly, creators would have little incentive to invest in the creation of new products. Specifically, why would one invest in creating a new product if a competitor can immediately copy and reap the benefits without sharing in the startup costs? As such, granting little or no exclusivity over a creator's work would reduce the number and quality of new products entering the market. Interestingly, granting too much exclusivity, or rights that are too broad in scope or length, would likely produce the same results (fewer, inferior products on the market) due to reduced competition. This would drive up costs to consumers and would likely leave too little for future innovators. As such, a delicate balance between over-protection and underprotection of intellectual property must be maintained.<sup>40</sup>

<sup>&</sup>lt;sup>39</sup> Office of Tech. Assessment, OTA-BP-CIT-61, Computer Software and Intellectual Property: Background Paper 25 n.6 (1990).

<sup>&</sup>lt;sup>40</sup> Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2315 n.15 (1994) [hereinafter Samuelson, *Manifesto*] ("The difficulty of tailoring intellectual property rights to achieve the proper balance of incentives to avoid both under- and overprotection of innovation is well known.").

Some scholars believe that the market regulates this balance on its own, without the ¶12 intervention of specialized legislation.<sup>41</sup> Copyright scholar Pamela Samuelson, for example, argues that intellectual property law should not "intervene [unless] it is necessary to avoid the market failure that can arise from rapid copying."<sup>42</sup> To support this theory, some point to industries, such as the fashion industry, which have arguably thrived for years with rampant copying and little help from copyright enforcement.<sup>43</sup> Based on this argument, the market, on its own, will reward a GUI's success as consumers flock to the most desired design, and the competition that will result from allowing second comers to emulate successful GUI designs will further stimulate innovation. It is only if "rapid copying" of GUIs causes market failure, i.e., stagnation in the market, that legislation will be warranted.

¶13 The question then becomes, however, does widespread imitation through incremental advances of existing GUIs promote progress and spur innovation? Or does the industry's focus on creating a multitude of slight variations on a single theme rob society of larger innovative strides? Some scholars posit that the software industry's obsession with copying the most successful designs on the market detracts from investment in highly original innovative designs. For example, nearly every tablet, smartphone, and laptop on the market today appears to mimic the designs originally created by Apple Computers. This copycat strategy may fine-tune existing designs, but it also results in a less varied selection of options for the consumer. Proponents of this view argue that widening the scope of protection and limiting how closely second comers can emulate an existing design will force competition to invest in creativity and innovation, rather than investing in the latest fads already present in the marketplace.<sup>44</sup>

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In the end, the theory of economic incentive must be viewed from both the vantage point of the original creator and that of the future designer-the two of which are often one and the same.<sup>45</sup> Intellectual property rights must provide enough protection to allow original creators to reap the benefits of their creations, while clearly defining boundaries of protection so that future designers can confidently build upon previous innovations via incremental advances or large innovative strides.

## B. The Needs of Efficiency and Technological Compatibility

Efficiency also plays a significant role in intellectual property protection and is specifically instrumental in software design. For example, legal protection for software designs cannot be so expansive that it forces software designers to continually reinvent the wheel. This is important because software code must interoperate, i.e., speak the same language, with other software and hardware. Requiring each software designer to

 $<sup>^{41}</sup>_{42}$  *Id.* at 2314. *Id. Id.* 

<sup>&</sup>lt;sup>43</sup> See generally KAL RAUSTIALA & CHRISTOPHER SPRIGMAN, THE KNOCKOFF ECONOMY: HOW IMITATION SPARKS INNOVATION (2012).

<sup>&</sup>lt;sup>44</sup> See Pamela Samuelson, A Fresh Look at Tests for Nonliteral Copyright Infringement, in 107 NW. U. L. REV. 1821, 1848 (2013) [hereinafter Samuelson, A Fresh Look] ("[S]ociety is likely to get increased and more diverse contributions to science (broadly construed) and to culture if follow-on creators are induced to express themselves differently than previous authors.").

<sup>&</sup>lt;sup>15</sup> See Risch, supra note 32, at 80 (stating that "every software creator is also a partial reuser of what came before").

individually create unique code for basic functions would be extremely inefficient and equally absurd, resulting in wasted energy and resources.<sup>46</sup> (Imagine trying to invent a new way of saying, "the dog is brown," each time you would like to express that particular thought.) However, by allowing competitors to build upon the work of those before them, more time and energy can be invested in developing new innovative products, and "[t]he pace of innovation can be speeded up."<sup>47</sup> Allowing the reuse of software "building blocks" benefits consumers as well as "[s]oftware competitors, and the industry as a whole, [all of whom] are concerned with shared access to state-of-the-art knowledge" that spurs further innovation.<sup>48</sup>

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Although expansive protection of software code design is problematic, the inefficiencies and redundancies that result from such overprotection do not impact GUI design to the same degree. Unlike interoperable code, whose function can often be achieved through a very limited number of ways, there are an infinite number of ways to graphically express a certain function. (Imagine the number of ways to graphically express a brown dog.) Similarly, the visual representation of a GUI—its individual elements, its overall organization on the screen, and the way its individual elements interact with one another—can often be achieved in a variety of ways. Despite the infinite options for graphically representing a user interface, software creators are continually tempted to copy successful GUI designs already on the market. This is not shocking, since GUI designs are often one of the main driving forces behind sales and the GUI of a product can have as much, if not more, of an impact on the user's experience with the product as its underlying code.<sup>49</sup> Without stricter rules, GUI designers will continue to copy. Therefore, a GUI designer who discovers a successful way to graphically achieve a certain function should be granted an exclusive right over the design, thereby barring competitors from immediately emulating and benefitting from that discovery.

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However, such a grant of exclusivity must be limited. While monopolizing certain colors or basic shapes would certainly result in severe and debilitating overprotection, granting a scope of protection over specific GUI designs that extends beyond exact copying would still leave an infinite number of iterations for competitors to freely pursue. The question again surfaces: how closely can a second comer copy a GUI design-to avoid reinventing the wheel—without harming the original creator's economic incentive to create? In the name of efficiency, allowing competitors to copy successful GUIs would certainly make the competitor's creation process more efficient by reducing design development costs. However, allowing such copying would do little to incentivize innovation for first- and second-generation designers, and the reduced innovation would in turn diminish the societal benefit. At bottom, the question is whether the law should allow this type of design "efficiency" in GUI design at the expense of true innovation, and whether incremental advances on existing designs are so important as to permit second comers to freeload off the work of those before them.

<sup>&</sup>lt;sup>46</sup> Samuelson, *Manifesto*, *supra* note 40, at 2315 n.15 ("The difficulty of tailoring intellectual property" rights to achieve the proper balance of incentives to avoid both under- and overprotection of innovation is well known.").

<sup>&</sup>lt;sup>47</sup> Id.

<sup>&</sup>lt;sup>48</sup> *Id*.

<sup>&</sup>lt;sup>49</sup> Richard Acello, Call It the Apple Effect: Firm Puts Its Mark on Design Patents, 99 A.B.A. J. 32 (Aug. 2013) ("Consumers are becoming more interested in the appearance of things they buy, which has led to a dramatic increase in the number of design patent applications.").

## C. The Needs of Society and End Users

¶18 Also grounded in the constitutional grant of intellectual property rights is a tradeoff between the rights of creators and those of the end user, i.e., society in general. For example, a creator who invests time, energy, expertise, and money in creating a product would argue that he or she should maintain exclusive rights over the creation and that the creation should remain free from competitive appropriation. The end user, however, would prefer to choose between a number of similar products with varying prices and would prefer to have the opportunity to transfer his or her investment, in files or program know-how, for example, between programs. Software consumers often invest time in learning a program—or perhaps teaching their entire work force a program—and want to be able to transfer this knowledge and expertise across platforms (i.e., from a Mac to a PC) or between programs (i.e., from a Microsoft Excel spreadsheet to a Google Drive spreadsheet), referred to as "switching costs." In relation to this dilemma, it is important to keep in mind that the ultimate goal of the constitutional creator-society tradeoff is to promote the free flow of information for the benefit of *society*, rather than to reward a specific creator.<sup>50</sup> While incentivizing creators is the means to the constitutional end of promoting progress, it is not the end goal in itself.

Congress seeks to balance this creator-society trade-off in their copyright, patent, and trademark legislation. In copyright law, for example, Congress grants creators broad rights over their work (through immediate attachment of rights and lifetime duration) yet simultaneously grants equally broad defenses (such as copyright's "fair use" doctrine<sup>51</sup>) to drastically pare down creators' exclusive rights.<sup>52</sup> The goal is to promote the free flow of ideas and allow future creators to build upon existing innovations, thereby supporting the natural flow of creation. A similar balance is struck in design patents<sup>53</sup> and trade dress.<sup>54</sup>

Copyright also limits granting exclusive rights over basic elements that are needed for future creation.<sup>55</sup> These basic elements may be required for compatibility between programs and platforms; examples of basic building blocks include industry standards such as a grid of boxes into which users can type information, or the use of drop down menus. By limiting monopolies over these basic "building blocks," a user's investment in their know-how is protected, and they can freely move between competing products, i.e., minimizing switching costs.

This cross-competitor interoperability between software programs is essential to technological advances. However, in the context of GUIs, it is important to note that this compatibility can often be achieved without copying the "look" of a program. For

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<sup>&</sup>lt;sup>50</sup> See L. RAY PATTERSON & STANLEY W. LINDBERG, THE NATURE OF COPYRIGHT: A LAW OF USERS' RIGHTS 49 (1991).

<sup>&</sup>lt;sup>51</sup> See Folsom v. Marsh, 9 F. Cas. 342 (C.C.D. Mass. 1841) (No. 4,901) (considered the first "fair use" case in the United States), *codified in* 17 U.S.C. §107 (which considers four factors to determine if copy infringement is considered fair use: (1) the purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for, or value of, the copyrighted work.).

<sup>&</sup>lt;sup>52</sup> See infra Part III. A. (Current GUI Protection: Copyright).

<sup>&</sup>lt;sup>53</sup> See infra Part III. B. (Current GUI Protection: Design Patents).

<sup>&</sup>lt;sup>54</sup> See infra Part III. C. (Current GUI Protection: Trade Dress).

<sup>&</sup>lt;sup>55</sup> See infra note 70 and accompanying text (explaining the merger doctrine).

example, competing products, such as smartphones, can run applications and display icons that perform similar basic functions across platforms—allowing a user to intuitively translate their technological know-how—even while the GUIs "looks" are radically different. Facebook, for example, can provide a mobile application that performs the same functions on both an iPhone (Figure 6) and a Windows Phone (Figure 7) even though the smartphone operating system GUIs are distinctly different.<sup>56</sup> Similarly, smartphones can perform the same basic functions, such as making a phone call, sending a text message, or reading an email, with distinctly unique GUIs.





In sum, the theories discussed in this section lay the groundwork for the judicial and legislative decision-making process. Courts balance these theories with legal

<sup>&</sup>lt;sup>56</sup> Compare Alexandra Chang, Microsoft Windows Phone 8: The "Third Mobile Platform" is Finally, Really Here, WIRED (Oct. 29, 2012, 2:41 PM), http://www.wired.com/reviews/2012/10/microsoft-windowsphone-8/all/ (displaying the Windows Phone 8 home screen with the Facebook application icon), and Darlington Moyo, Official Facebook App for Windows Phone Gets Another Update, WPSUPERFANBOY, http://www.wpsuperfanboy.com/news.php?post\_id=359 (displaying the Facebook 2.7 application within the Windows Phone 8 operating system), with Jon Rettinger, iOS 7 Hands-On: Different But the Same, TECHNO BUFFALO (June 11, 2013), http://www.technobuffalo.com/wp-content/uploads/2013/06/iOS-7-Tour-Home-Screen.png (displaying the iPhone iOS home screen with the Facebook application icon), and Anupam Saxena, Facebook for iOS gets an iOS 7-style Redesign, NDTV (Sept. 19, 2013), http://gadgets.ndtv.com/apps/news/facebook-for-ios-gets-an-ios-7-style-redesign-420887 (displaying the Facebook application within the Apple iPhone iOS 7).

precedent, and based on this balancing, courts will be "more likely to find infringement" where second comers have committed "slavish copying, or breach of an economic relationship."57 Similarly, courts are "less likely to find infringement or less likely to extend protections where customers benefit from compatibility," including "where switching costs [between programs] are high, either due to hardware costs or user training," "where the design becomes a de facto standard [i.e., a basic building block]," or "where competitive principles favor compatibility," such as "network connectivity or an application programming interface that allows software programs to exchange data."58 Courts and legislators must—as they have in the past—keep these theories in mind, and consider, in each case, how they impact the incentive to create, the stimulation of innovation, and the resulting benefit to society.

## **III. CURRENT GUI PROTECTION**

¶23 With these policy concerns in tow, GUI designs may be protected under a number of legal regimes: copyright, trade dress, and design patents. Although the three theories overlap, each provides a unique set of standards and scope of protection. Moreover, each offers its own set of advantages and disadvantages. Yet, despite these available protections, courts have been reluctant "to grant any kind of intellectual property protection for [GUIs],"59 and none of these theories—individually or combined provides adequate GUI protection.

## A. Copyright

- First, given their graphical nature, GUIs logically fit within the scope of copyright ¶24 law. However, copyright protection for GUIs is thin, and cases addressing the protection of GUIs are rare.<sup>60</sup> To provide an understanding of copyright as it relates to GUIs, this section sets forth (1) a brief overview of GUI copyright protection, (2) its limitations, (3) a short history of GUI case law, and (4) the advantages and disadvantages of GUI copyright protection as it stands today.
  - 1. What is a GUI Copyright?
  - The Copyright Act of 1976 provides that the creator of an "original work of authorship" maintains the exclusive rights to reproduce, prepare derivative works of, distribute, perform, display, and transmit the copyrighted work.<sup>61</sup> Copyrightable subject matter includes literary works (e.g., books, help screens), musical works, choreographic works, pictorial works (e.g., icons), graphical works (e.g., spreadsheet formats), audiovisual works (e.g., video games, GUIs), sound recordings, and architectural works.<sup>62</sup> Copyright protection does not extend to *ideas*, but, rather, only to the original *expressions*

<sup>&</sup>lt;sup>57</sup> Risch, *supra* note 32, at 57. <sup>58</sup> *Id.* at 57–58.

<sup>&</sup>lt;sup>59</sup> Rolling, *supra* note 15.

<sup>&</sup>lt;sup>60</sup> Risch, *supra* note 32, at 57 (stating that "GUI copyright cases dwindled over time [due to seemingly well-settled copyright disputes] and are relatively rare today").

<sup>&</sup>lt;sup>61</sup> 17 U.S.C. § 106.

<sup>&</sup>lt;sup>62</sup> 17 U.S.C. § 102(a).

thereof.<sup>63</sup> The boundary between idea and expression is unclear, and courts continually grapple when distinguishing the two.<sup>64</sup> Copyright protection attaches to an original work of authorship as soon as the work is "fixed" in a "tangible medium" (e.g., when the pencil makes a line on the page),<sup>65</sup> and lasts for the life of the author plus seventy years, or for commercial work, ninety-five years from date of publication or 120 years from date of creation.<sup>66</sup>

For GUIs, copyright can be used to prohibit others from reproducing individual elements of a GUI (e.g., icons, text, dialogue boxes), but only to the extent that the individual elements are original expressions.<sup>67</sup> Additionally, copyright can keep others from reproducing exact or near exact copies of a compilation of those individual elements (e.g., the GUI as a whole). Individual elements of a GUI design are typically protected as pictorial and graphic works, while a GUI as a whole is often protected as an audiovisual work.<sup>68</sup> While copyright protection once could have extended to the non-literal elements of a GUI, i.e., its "look," case law over the years has long abandoned protecting the "look and feel" of software graphics.<sup>69</sup> Thin protection is all that remains. Thus, copyright protection of GUIs remains severely limited.

2. GUI Copyright Limitations: Compilations and the Merger Doctrine

As a general guideline, the more fanciful and original a work is, the larger its scope of copyright protection, and the more utilitarian or useful a work is, the more narrow (i.e., "thinner") its scope of protection (only an exact copy will be found to infringe).<sup>70</sup> Additionally, the scope and strength of a particular copyright are further whittled down by copyright's "merger doctrine" and "compilation" theory.

Under the "merger doctrine," if there is only one or a limited number of ways to express a certain idea, that expression is said to have "merged" with the idea, and will not

<sup>68</sup> The Copyright Act of 1976 defines an audiovisual work as a "series of related images" shown by the aid of a machine or device. 17 U.S.C. § 101 (1976). *See also* Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1445 (9th Cir. 1994) (stating that graphical user interfaces are "closely analogous" to "videogames, which are audiovisual works" and that "graphical user interface audiovisual works are subject to the same process of analytical dissection as are other works"); Midway Mfg. Co. v. Artic Int'l, Inc., 704 F.2d 1009, 1014 (7th Cir. 1983) (establishing that screen displays of video games are protected by copyright); Williams Elecs., Inc. v. Artic Int'l, Inc., 685 F.2d 870, 877 (3d Cir. 1982); Atari, Inc. v. N. Am. Philips Consumer Elecs. Corp., 672 F.2d 607, 617 (7th Cir. 1982); Stern Elecs., Inc. v. Kaufman, 669 F.2d 852, 857 (2d Cir. 1982); Midway Mfg. Co. v. Dirkschneider, 543 F. Supp. 466, 479 (D. Neb. 1981). <sup>69</sup> See Computer Assoc. Int'l, Inc., 982 F.2d 693 (2d Cir. 1992) (setting forth the

<sup>70</sup> Samuelson, *A Fresh Look, supra* note 44, at 1842 ("Many types of works have 'thin' scopes of copyright protection. This includes 'highly-functional, utilitarian' works, such as computer programs, as to which 'the Copyright Act may serve as a relatively weak barrier against public access to the theoretical interstices behind a program's source and object codes."").

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<sup>&</sup>lt;sup>63</sup> 17 U.S.C. § 102(b) (2006) (stating that "[i]n no case does copyright protection . . . extend to any . . . concept").

<sup>&</sup>lt;sup>64</sup> See Nichols v. Universal Pictures Corp. 45 F.2d 119, 121 (2d Cir. 1930) (in which Judge Learned Hand states that "[n]obody has ever been able to fix that boundary [between ideas and expression], and nobody ever can.").

<sup>&</sup>lt;sup>65</sup> 17 U.S.C. § 102 (stating the fixation requirement of copyright).

<sup>&</sup>lt;sup>66</sup> 17 U.S.C. §§ 301–05 (2012) (setting forth the duration of copyright).

<sup>&</sup>lt;sup>67</sup> See infra note 71 and accompanying text (explaining the merger doctrine).

<sup>&</sup>lt;sup>69</sup> See Computer Assoc. Int'l, Inc. v. Altai, Inc., 982 F.2d 693 (2d Cir. 1992) (setting forth the abstraction-filtration-comparison test in which two works are compared element by element, rather than as a whole).

be eligible for copyright protection.<sup>71</sup> This is because "to give one creator a monopoly over these basic elements would effectively stunt the efforts of other creators to elaborate on these elements in the production of their own works."<sup>72</sup> To avoid this outcome, the merger doctrine precludes the protection of basic building blocks used individually, and allows only limited protection for such elements if they are used together in a compilation.<sup>73</sup>

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A "compilation" is a "collection . . . of preexisting materials or . . . data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship."<sup>74</sup> While individual elements containing *original* expression are copyrightable, preexisting materials—such as building blocks that are too basic to be exclusive to a single creator—cannot be protected.<sup>75</sup> For example, letters of the alphabet are "preexisting materials" which are not, individually, eligible for copyright protection, but the letters used together can be eligible for protection, so long as they are "selected, coordinated, or arranged" in an "original" way.<sup>76</sup> For GUIs, "preexisting materials" include elements such as color, frames, and particular menu styles that are common in the industry such as pull-down menus. A GUI as a whole, however, is only protectable as a "compilation."<sup>77</sup>

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Unfortunately for GUIs, copyright only protects a compilation of these "preexisting materials" (e.g., the GUI as a whole) from exact copies of the compilation. As such, copyright protection of compilations is very thin. This means that even a slight variation from the original will likely be permissible,<sup>78</sup> and "careful infringers" can easily "escape [infringement] by [producing] immaterial variations."<sup>79</sup> Since GUIs are "rarely identical,"

<sup>74</sup> 17 U.S.C. § 101.

<sup>&</sup>lt;sup>71</sup> Baker v. Selden, 101 U.S. 99, 102-104 (1879) (setting forth the "merger doctrine" and pointing out that ideas are subject matter protected by patents while only expressions can be copyrighted).

<sup>&</sup>lt;sup>72</sup> OFFICE OF TECH. ASSESSMENT, OTA-BP-CIT-527, FINDING A BALANCE: COMPUTER SOFTWARE, INTELLECTUAL PROPERTY AND THE CHALLENGE OF TECHNOLOGICAL CHANGE 143 (1992).

<sup>&</sup>lt;sup>73</sup> Real View, LLC v. 20-20 Techs., Inc., 683 F. Supp. 2d 147, 152 (D. Mass. Feb. 11, 2010) ("Although a work may contain numerous unprotectable elements, the work may still be entitled to copyright protection as a compilation.").

<sup>&</sup>lt;sup>75</sup> Telemarketing Res. v. Symantec Corp., No. C88-20352 RPA, 1989 WL 200350, at \*5 (N.D. Cal. Sept. 6, 1989) ("Plaintiffs may not claim copyright protection of an idea and expression that is, if not standard, then commonplace in the computer software industry.").

<sup>&</sup>lt;sup>76</sup> See Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc. 499 U.S. 340, 361 (1991) (setting forth that facts can be protected as a compilation, so long as the selection, coordination, or arrangement of facts is original), *codified in* 17 U.S.C. § 101 (defining a compilation as "a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.").

<sup>&</sup>lt;sup>77</sup> *Real View, LLC*, 683 F. Supp. 2d 147 at 150–52 (stating that "[a]lthough a work may contain numerous unprotectable elements, the work may still be entitled to copyright protection as a compilation," and stating that specifically, "the screen display and graphical user interface, including the dialog boxes, are protectable as a compilation.").

<sup>&</sup>lt;sup>78</sup> Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1442 (9th Cir. 1994); Pamela Samuelson, *The Uneasy Case for Software Copyrights Revisited*, 79 GEO. WASH. L. REV. 1746, 1782 n.129 (2011) [hereinafter Samuelson, *The Uneasy Case*] ("Insofar as program interfaces were composed primarily of unprotected elements, the Ninth Circuit opined that the defendant's work would need to be 'virtually identical' to the plaintiff's before a court would find infringement.").

<sup>&</sup>lt;sup>79</sup> Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930), *cert. denied*, 282 U.S. 902 (1931) (Judge Learned Hand states, in relation to literary works, that "[i]t is of course essential to any protection of literary property . . . that the right cannot be limited literally to the text, else a plagiarist would escape by immaterial variations.").

copyright's compilation theory provides GUIs with a virtually non-existent scope of protection.<sup>80</sup> This, however, was not always the case.

3. A Short History of GUI Case Law — a. Copyright's "Look and Feel" Cases

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While the simple copyright case is whether an exact copy of an individual GUI element or a GUI compilation has been copied,<sup>81</sup> the more difficult and controversial case is whether copyright protection should extend to the "look and feel" of a GUI.<sup>82</sup> Courts apply a number of tests for finding copyright infringement,<sup>83</sup> but typically, the "more artistic or fanciful a work is, . . . the more appropriate it is to focus infringement analysis primarily on similarities in the aesthetic appeal of the two works rather than on a dissective analysis of similarities and differences."<sup>84</sup> By contrast, the "more factual or functional a work is, . . . the 'thinner' . . . its scope of copyright protection [will be]."<sup>85</sup> GUIs, and their underlying software, are considered functional works, and their scope of copyright, as previously noted, is thin.

<sup>¶32</sup> However, in early software cases, copyright protection was broad. In 1986, in *Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.*<sup>86</sup> the Third Circuit extended copyright protection to the non-literal elements of software, and determined that the "structure, sequence and organization" (SSO) of one software program had infringed the copyright of another software program upon which it was based.<sup>87</sup> Although the two programs were written in different code languages, they had the same screen appearance and underlying code structure.<sup>88</sup> The court held that protection extended beyond the literal elements to the "non-literal elements" of the software's SSO, including the program's design, so long as the elements at issue were expressions and did not "merge" with the idea.<sup>89</sup> This case broadened the scope of software. Later that year, shortly after *Whelan*, the Northern District of California in *Broderbund Software, Inc. v. Unison World, Inc.*<sup>90</sup> generously broadened the *Whelan* ruling by extending the scope of copyright protection to non-literal elements, i.e., the "look and feel," of a screen display.<sup>91</sup> The court in

<sup>&</sup>lt;sup>80</sup> Michael Risch, *Functionality and Graphical User Interface Design Patents* 41 (Villanova U. School of Law, Public Law and Legal Theory Working Paper No. 2013-3058).

<sup>&</sup>lt;sup>81</sup> Samuelson, *A Fresh Look, supra* note 44, at 1822 (stating that "[n]o subtlety of analysis is required when a work is copied word-for-word, line-by-line, or note-for-note or when second comers have made merely 'colorable and fraudulent variations'").

<sup>&</sup>lt;sup>82</sup> See, e.g., Williams Elecs., Inc. v. Artic Int'l, Inc., 685 F.2d 870, 877 (3d Cir. 1982) (finding infringement of videogame copyrights); Samuelson, *The Uneasy Case, supra* note 78, 1765 (citing Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1231 (3d Cir. 1986)).

<sup>&</sup>lt;sup>83</sup> Samuelson, *A Fresh Look, supra* note 44, at 1823 (discussing the "five most frequently utilized tests for infringement of the reproduction right in nonliteral similarity cases.").

 $<sup>^{84}</sup>_{95}$  Id.

<sup>&</sup>lt;sup>85</sup>*Id*.

<sup>&</sup>lt;sup>86</sup> Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1240 (3d Cir. 1986).

<sup>&</sup>lt;sup>87</sup> Id. at 1248.

<sup>&</sup>lt;sup>88</sup> Id.

<sup>&</sup>lt;sup>89</sup> *Id.* at 1225; *see also* Baker v. Selden, 101 U.S. 99 (1879) (holding that, under the merger doctrine, if there are only a few ways to express an idea, the expression merges with the idea and is thereby ineligible for copyright protection).

<sup>&</sup>lt;sup>90</sup> Broderbund Software, Inc. v. Unison World, Inc., 648 F. Supp. 1127 (N.D. Cal. 1986).

<sup>&</sup>lt;sup>91</sup> Mfrs. Tech., Inc. v. CAMS, Inc., 706 F. Supp. 984, 992 (D. Conn. 1989).

*Broderbund* applied the "total concept and feel" test of *Roth Greeting Cards v. United Card Co.*,<sup>92</sup> in which the Ninth Circuit, in deciding whether a set of greeting card designs infringed another set, determined that "all elements of each [work], including text, arrangement of text, art work, and association between art work and text, [must] be considered as a whole."<sup>93</sup> This was "the first case to articulate the total concept and feel . . . approach to judging non-literal infringement of the reproduction right."<sup>94</sup> *Broderbund*, in turn, extended the scope of software graphics protection to capture the synergies between elements of the screen display, such as non-literal transitional elements and the overall user experience. Some argue that the expansive scope of protection for software graphics in *Broderbund* resulted in years of suppressed innovation.<sup>95</sup>

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This broad scope of protection, however, was soon reigned in.<sup>96</sup> In 1989, *Manufacturers Technology, Inc. v. CAMS, Inc*,<sup>97</sup> which was one of the first cases to follow *Whelan* and *Broderbund*,<sup>98</sup> directly addressed the "copyrightability of computer screen displays"<sup>99</sup> and the court found that the *Broderbund* approach was too expansive, "overextend[ing] the scope of copyright protection."<sup>100</sup> The court presented a more systematic and conservative approach. First, the court (i) reviewed the graphical elements of each computer screen, then (ii) determined whether it contained expression that could be separated from the purpose or idea underlying the screen (i.e., escaped the merger doctrine), and if so, (iii) determined whether the expression of the underlying idea had been copied.<sup>101</sup> Using this detailed approach, the court found that some aspects of the screen, such as ideas including methods of formatting and screen navigation, were not subject to copyright, while other aspects of the screen's appearance were copyrightable expression.<sup>102</sup> Further, this case was the first to analyze software graphics (screen display) separately from the user interface (the underlying code)—a huge leap for GUI protection.<sup>103</sup>

<sup>97</sup> Mfrs. Techs., Inc., 706 F. Supp. at 992.

<sup>99</sup> *Id.* at 990-98.

<sup>101</sup> See Id.

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<sup>&</sup>lt;sup>92</sup> Samuelson, A Fresh Look, supra note 44, at 1834-35.

<sup>&</sup>lt;sup>93</sup> *Id.* at 1831 (citing Roth Greeting Cards v. United Card Co., 429 F.2d 1106, 1109 (9th Cir. 1970)).

<sup>&</sup>lt;sup>94</sup> *Id.* at 1830 (citing *Roth Greeting Cards*, 429 F.2d at 1110, *superseded by* Copyright Act of 1976, Pub. L. No. 94-553, § 411(a), 90 Stat. 2541, 2583 (codified as amended at 17 U.S.C. § 411(a) (2006)), *as* 

*recognized in* Cosmetic Ideas, Inc. v. IAC/InteractiveCorp, 606 F.3d 612, 616 n.5 (9th Cir. 2010)). <sup>95</sup> Bruce Abramson, *Promoting Innovation in the Software Industry: A First Principles Approach to Intellectual Property Reform* & P. I. L. SCI. & TECH. L. 1 (2001).

Intellectual Property Reform, 8 B.U. J. SCI. & TECH. L. 1 (2001). <sup>96</sup> See, e.g., Mfrs. Techs., Inc. v. CAMS, Inc., 706 F. Supp. 984 (D. Conn. 1989) (comparing works expression by expression); Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693 (2d Cir. 1992) (using the abstraction, filtration and comparison test for infringement); Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1445 (9th Cir. 1994) (rejecting Apple's argument that the "total concept and feel" of the GUI should have been considered in the infringement analysis).

<sup>&</sup>lt;sup>98</sup> *Id.* at 992 ("[O]nly two courts [*Broderbund* and *Whelan*] have specifically dealt with the issue of whether the copyright in a computer program should extend protection to the screen displays generated by that program.").

<sup>&</sup>lt;sup>100</sup> *Id.* at 992.

<sup>&</sup>lt;sup>102</sup> *Id. See also* MICHAEL A. EPSTEIN, EPSTEIN ON INTELLECTUAL PROPERTY (Aspen Publishers, 5th ed. 2006).

 $<sup>^{103}</sup>$  Mfrs. Techs., Inc., 706 F. Supp. at 993 (D. Conn. 1989) ("The . . . approach . . . that this Court adopts, is to treat the single registration of the computer program as accomplishing two interrelated yet distinct registrations; one of the program itself and one of the screen displays or user interface of that program, to the extent that each contains copyrightable subject matter.").

## 4. Say Goodbye to "Look and Feel"

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Despite the recognition of software graphics as separate copyrightable works,<sup>104</sup> the Second Circuit, in 1992, established a limited scope of copyright protection for both computer software and GUIs.<sup>105</sup> In Computer Associates International, Inc. v. Altai, Inc., the Second Circuit developed a system-similar to the analysis performed in Manufactures Technologies, Inc. v. CAMS, Inc.-to analyze copyright infringement of computer software by (i) abstracting out expression from ideas, (ii) filtering out the resulting un-protectable ideas, and then (iii) comparing the remaining elements of the allegedly infringing work—both individually and as a compilation—with those elements of the original work.<sup>106</sup> Protection extended to "literal" software elements (specifically, a computer program's underlying code)<sup>107</sup> as well as "non-literal" elements (the underlying code's structures and their relationships).<sup>108</sup> As defined and understood in *Altai*, such nonliteral elements included the conceptual underpinnings and theoretical structure of the program itself.<sup>109</sup> Simply, infringement could result "where the 'fundamental essence or structure' of one work is duplicated in another, even if the so-called 'literal' elements of the work are not similar."<sup>110</sup> Following Altai, courts in the Second Circuit and beyond "became more openly skeptical about claims of copyright protection for the 'look and feel' of programs."<sup>111</sup>

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While this logical framework has been applied most frequently to the underlying code of computer software,<sup>112</sup> courts have applied the *Altai* non-literal infringement test to screen displays and graphical user interfaces as well.<sup>113</sup> So, under *Altai*, "virtual paper" and "desktop" metaphors, as concepts or ideas, would be too abstract to be protected by copyright law,<sup>114</sup> while individual expressions of those ideas could still be protected.<sup>115</sup>

<sup>114</sup> Donald S. Chisum et al., *LaST Frontier Conference Report on Copyright Protection of Computer Software*, 30 JURIMETRICS J. 15, 29 (1989) (describing conceptual metaphors as "ideas"); Samuelson, *Manifesto, supra* note 40, at 2326.

<sup>&</sup>lt;sup>104</sup> *Id*.

<sup>&</sup>lt;sup>105</sup> See Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 711 (2d Cir. 1992).

<sup>&</sup>lt;sup>106</sup> Id. at 706; see also Mfrs. Techs., 706 F. Supp. at 992.

<sup>&</sup>lt;sup>107</sup> See Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 702 (2d Cir. 1992) ("It is now well settled that the literal elements of computer programs, i.e., their source and object codes, are the subject of copyright protection.").

<sup>&</sup>lt;sup>108</sup> Altai, 982 F.2d at 702.

<sup>&</sup>lt;sup>109</sup> O.P. Solutions, Inc. v. Intellectual Prop. Network, Ltd., 96 CIV. 7952 (LAP), 1999 WL 47191 (S.D.N.Y. Feb. 2, 1999).

<sup>&</sup>lt;sup>110</sup> *Id.* at \*6 (citing *Altai*, 982 F.2d at 701).

<sup>&</sup>lt;sup>111</sup> Samuelson, *The Uneasy Case, supra* note 78, at 1771 n.202 (citing Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807, 815 (1st Cir. 1995) (rejecting claim of copyright infringement based on "look and feel" of spreadsheet program); *Id.* citing Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1439 (9th Cir. 1994)).

<sup>&</sup>lt;sup>112</sup> Samuelson, *A Fresh Look, supra* note 44, at 1837 (stating that *Computer Assocs., Inc. v. Altai* is "the most widely used test for judging nonliteral infringement of computer programs.").

<sup>&</sup>lt;sup>113</sup> See Real View, LLC v. 20-20 Techs., Inc., 683 F. Supp. 2d 147, 150 (D. Mass. 2010) ("The question of copyrightability [for graphical user interfaces] should be assessed based on the 'abstraction, filtration, comparison' test developed in [*Altai*]."); see also O.P. Solutions, Inc., 1999 WL 47191 at \*6 (citing MiTek Holdings, Inc. v. Acre Eng'g Co., Inc., 89 F.3d 1548, 1555 n.15) (stating that "courts have extended [the] understanding of 'non-literal' elements beyond the program's conceptual scheme to include the program's output, such as the screen displays and user interfaces, menus, and 'command tree' structures contained on the screens.").

<sup>&</sup>lt;sup>115</sup> Merch. Transaction Sys., Inc. v. Nelcela, Inc., 2009 WL 723001, at \*7 (D. Ariz. Mar. 18, 2009) ("It

Elements required for interoperability, e.g., colors, basic building blocks, would be filtered out,<sup>116</sup> while a GUI's "non-literal" elements, e.g., the synergies created from the combination of a GUI's graphical and transitional elements, would, theoretically, still be protected. Yet, these non-literal elements would only be protected as compilations from exact or near exact copies, as Altai and its progeny firmly established that protection of GUIs does not extend to the "look and feel" of the GUI.<sup>117</sup> Shortly after Altai, the Ninth Circuit established a similar scope of protection for the first personal computer GUI as well 118

## 5. The First GUI Goes to Court

¶36

In Apple Computer, Inc. v. Microsoft Corporation, the first true GUI case following the "birth of the GUI," the Ninth Circuit firmly established that GUIs would receive very little copyright protection.<sup>119</sup> In this case, Apple Computer (Apple) secured a copyright registration for its own version of the personal computer GUI, and then licensed portions of its GUI to Microsoft Corporation (Microsoft) and Hewlett-Packard (HP).<sup>120</sup> Then, when Microsoft and HP updated their own GUIs to create second versions of their software (this time using non-licensed elements of Apple's GUI), Apple sued Microsoft and HP for copyright infringement.<sup>121</sup> Apple "relied on copyright cases extending protection to the 'look and feel' of graphical works,"<sup>122</sup> and claimed that Microsoft copied the "look and feel" of Apple's personal computer GUI.<sup>123</sup> Apple claimed copying of 189 elements including: design and appearance of application windows; design and appearance of dialog boxes; menu design and appearance; design and appearance of individual applications; icon design, appearance, and manipulation; and arrangement and manipulation of application windows.<sup>124</sup> Apple argued that, taken as a whole, the GUI's "look and feel" was more important than the 189 individual elements taken alone.<sup>125</sup>

<sup>118</sup> See Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435 (9th Cir. 1994).

 $^{121}$  Id.

<sup>123</sup> Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1439 (9th Cir. 1994). <sup>124</sup> Apple Computer, Inc. v. Microsoft Corp., 717 F. Supp. 1428, 1433–35 (N.D. Cal. 1991), *aff'd* 35 F.3d 1435 (9th Cir. 1994).

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is important to note that '[t]he non-literal components of a computer program, including its user interface, are protectable if, on the particular facts of each case, the component in question qualifies as an expression of an idea [not] an idea itself."") (quoting Apple Computer, Inc. v. Microsoft Corp., 799 F. Supp. 1006, 1020 (N.D. Cal. 1992)).

<sup>&</sup>lt;sup>116</sup> See Real View, 683 F. Supp. 2d at 152 (citing Altai, "the Court can filter based on hardware standards, software standards, computer manufacturers' design standards, target industry practices, and computer industry programming practices.").

See, e.g., Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1439 (9th Cir. 1994) (rejecting Apple's argument that when determining infringement of their GUI the court should consider the "look and feel" of the GUI as a whole); Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807, 815 (1st Cir. 1995) (rejecting a claim of copyright infringement based on the "look and feel" of a spreadsheet program).

<sup>&</sup>lt;sup>119</sup> *Id.* at 1439.

<sup>&</sup>lt;sup>120</sup> *Id.* at 1438.

<sup>&</sup>lt;sup>122</sup> Id. at 1441-42; Samuelson, The Uneasy Case, supra note 78, at 1763 (2011); see also, e.g., Roth Greeting Cards v. United Card Co., 429 F.2d 1106, 1110 (9th Cir. 1970) (finding that the copyright for greeting cards was infringed because of similarities in the "look and feel" of the plaintiff's and defendant's cards).

<sup>&</sup>lt;sup>125</sup> Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1442 (9th Cir. 1994) ("Apple wants an overall comparison of its works to the accused works for substantial similarity rather than virtual identity.") (emphasis in original).

- <sup>¶37</sup> The court, however, ignored Apple's "look and feel" argument and instead analyzed each element one by one.<sup>126</sup> The Ninth Circuit upheld that, of the 189 elements, 179 were licensed to Microsoft, and the remaining ten were not copyrightable—they were either unoriginal to Apple or "merged" with the idea.<sup>127</sup> As a result, Apple's GUI was protected from exact copies only.<sup>128</sup> The Ninth Circuit reasoned that "Apple cannot get patent-like protection for the idea of a graphical user interface, or the idea of a desktop metaphor" under copyright law.<sup>129</sup> Not surprisingly, soon after the Ninth Circuit's decision in *Apple v. Microsoft*, the software industry began to rely more heavily on design patents for protection.<sup>130</sup>
  - 6. Advantages and Disadvantages of GUI Copyrights

<sup>¶38</sup> Although GUIs intuitively fall into the subject matter of copyright, there are a number of fundamental problems with using copyright to protect GUI designs.<sup>131</sup> First, a GUI's non-literal elements may be inadequately protected under copyright. For example, while individual original GUI elements may enjoy a wider scope of protection from substantially similar reproductions,<sup>132</sup> any synergies that result from the interactive nature of GUI design, i.e., transitions, relationships between elements, and overall "look and feel" of the GUI, will only be protected from exact copying.<sup>133</sup> This leaves a gaping hole in GUI protection, where second comers can freely imitate a particular GUI design and its synergies by carefully avoiding copying the exact graphics, leaving the GUI's original creator with no legal remedy under copyright law.

¶39

However, protecting the "look and feel" of a GUI provides an infringement standard that is arguably too broad in scope, too discretionary, and too difficult to apply.<sup>134</sup> Also, while copyright's scope of protection is weak, its duration is too long: an author's life plus seventy years, or longer for commercial works.<sup>135</sup> Software design moves quickly, so granting exclusive rights over a GUI design for nearly a century or more dramatically skews the constitutional creator-society trade-off.<sup>136</sup> GUI creators are

<sup>&</sup>lt;sup>126</sup> *Id.* ("To prevail [in its infringement claim] Apple must show . . . that Microsoft and HP copied unlicensed, protected *elements* of its copyrighted audiovisual works [i.e., its GUI].") (emphasis added) (citing Brown Bag Software v. Symantec Corp., 960 F.2d 1465, 1472 (9th Cir. 1992)).

<sup>&</sup>lt;sup>127</sup> Apple Computer, Inc. v. Microsoft Corp., 717 F. Supp. 1428, 1433–35 (N.D. Cal. 1991), *aff'd* 35 F.3d 1435 (9th Cir. 1994); *see also* Samuelson, *The Uneasy Case, supra* note 78, at 1763 ("The Ninth Circuit rigorously filtered out unprotected elements in assessing copyright infringement for computer-program user interfaces.").

<sup>&</sup>lt;sup>128</sup> Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1442 (9th Cir. 1994) ("Considering the license [of the GUI elements by Apple to Microsoft and HP] and the limited number of ways that the basic ideas of the Apple GUI can be expressed differently, we conclude that only 'thin' protection, against virtually identical copying, is appropriate.").

<sup>&</sup>lt;sup>129</sup> *Id.* at 1443. *See also* Baker v. Selden, 101 U.S. 99 (1879) (establishing that copyright protection only extends to *expressions* of ideas, while the protection of ideas falls under the subject matter of patent law) (emphasis added).

<sup>&</sup>lt;sup>130</sup> See infra note 168 and accompanying chart.

<sup>&</sup>lt;sup>131</sup> See Samuelson, A Fresh Look, supra note 44.

<sup>&</sup>lt;sup>132</sup> Id. at 1838. But see Computer Assocs. Int'l Inc. v. Altai, Inc., 982 F.2d 693, 710 (2d Cir. 1992).

<sup>&</sup>lt;sup>133</sup> See supra note 76 and accompanying text.

<sup>&</sup>lt;sup>134</sup> See generally Lotus Dev. Corp. v. Paperback Software Int'l., 740 F. Supp. 37, 62–63 (D. Mass. 1990) (discussing issues with a "look and feel" standard).

<sup>&</sup>lt;sup>135</sup> 17 U.S.C. §§ 301–05 (2012) (setting forth the duration of copyright).

<sup>&</sup>lt;sup>136</sup> See supra Part I.C.

given *generations* to recoup their investment, only allowing society to build upon the work long after the GUI has become obsolete. For this reason, the "thinness" of copyright protection makes sense. But it is far from ideal.

The ill-suited nature of copyright protection is also evident in practice, where welldesigned "user friendly" software, of which GUI design plays an essential role, is crucial in the marketplace. "The 'thinness' of copyright protection for programs after *Altai* . . . seems to have contributed to a shift among software developers away from heavy reliance on copyright protection . . . and toward a greater reliance on patents."<sup>137</sup> According to a 2008 survey, software entrepreneurs do not view copyright protection as an important market advantage.<sup>138</sup> "Far more important to [attaining competitive advantage in the marketplace] is first-mover advantage."<sup>139</sup> To achieve this, software entrepreneurs rely more heavily on trademark than copyright or patents.<sup>140</sup> This lack of reliance on copyright and patents by software entrepreneurs can likely be contributed to the thinness of GUI copyright protection, and the cost and uncertainty, due to the lack of case law, of GUI design patent protection. Trade dress, which falls under the trademark umbrella, seems to be the most viable option for entrepreneurs to protect their GUIs.

## B. Trade Dress

1. What is Trade Dress?

Copyright has long abandoned protecting the "look and feel" of GUI designs, but trade dress rights, however, still extend to a GUI's "look and feel," including its overall design and its non-literal synergies.<sup>141</sup> Trade dress refers to the characteristics of the visual appearance of a product or its packaging (i.e., "container of goods") that signify the source of the product to consumers.<sup>142</sup> Trade dress rights, similar to trademark rights, are protected under the Lanham Act. Section 43(a) of the Lanham Act sets forth the

<sup>139</sup> *Id*.

<sup>140</sup> *Id.* (concluding that "[i]n software, patenting is rated the least important among all of the appropriability strategies.").

<sup>141</sup>See Two Pesos, Inc. v. Taco Cabana, Inc., 505 U.S. 763, 764 (1992) (stating that "[t]he 'trade dress' of a product is essentially its total image and overall appearance," and that "[i]t involves the total image of a product and may include features such as size, shape, color or color combinations, texture, graphics, or even particular sales techniques."); see also Karen Leisten, *Protecting a Company's Graphical User Interface*, WILMERHALE (Publication & News) May 6, 2002, at 1 ("Trade dress encompasses the appearance of the GUI, including the 'look and feel.").

<sup>&</sup>lt;sup>137</sup> Samuelson, *The Uneasy Case, supra* note 78, at 1773; *see* JOSH LERNER & FENG ZHU, WHAT IS THE IMPACT OF SOFTWARE PATENT SHIFTS?: EVIDENCE FROM LOTUS V. BORLAND 26 (Nat'l Bureau of Econ. Research, Working Paper No. 11,168, 2005) (presenting evidence of surge software-innovation patents in the mid-1990s).

<sup>&</sup>lt;sup>138</sup> Samuelson, *The Uneasy Case, supra* note 78, at 1780-81 (citing Stuart J.H. Graham et al., *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L. J. 1255, 1290 fig.1 (2009), and stating that "[a] recent survey of software entrepreneurs shows that these entrepreneurs do not perceive copyright to be very important to their firms' ability to attain competitive advantage in the marketplace.").

<sup>&</sup>lt;sup>1142</sup> 15 U.S.C. § 1125 (where section 43(a) of the Lanham Act states that, trade dress protects a GUI owner from others who "use[] in commerce any word, term, name, symbol or device, or any combination thereof . . . which [] is likely to cause confusion . . . as to the origin [etc.] of his or her goods, services, or commercial activities by another person."); *see also*, ROBERT P. MERGES, PETER S. MENELL, MARK A. LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 29 (4th rev. ed., Wolters Kluwer New York, 2007).

standard for trade dress infringement, which is whether a good, service, or container of goods is "likely to cause confusion" about the origin of another good, service, or container of goods.<sup>143</sup> The purpose of trade dress is to ensure that consumers are able to clearly identify the source of the products they purchase.

**¶42** 

Trade dress rights do not require registration, but may be registered with the USPTO.<sup>144</sup> Three basic requirements must be met to establish trade dress protection. First, the trade dress must be "distinctive" or acquire "secondary meaning."<sup>145</sup> This is a high threshold for design protection because it requires that a design be so well known that consumers can-typically through surveys-associate a product with its particular source.<sup>146</sup> For example, the typical consumer would likely see the packaging of a Starbucks cup, void of any text, and be able to identify Starbucks as its source. The second requirement to establish trade dress is that the design must be entirely "nonfunctional."<sup>147</sup> This means the design cannot be "essential to the use" of the product or affect its cost.<sup>148</sup> This is an extremely high threshold, given that nearly everything can affect a product's price. The third and final requirement is that the allegedly infringing product must be "likely to cause confusion" as to the product's source.<sup>149</sup> In sum, trade dress offers protection to a very narrow category of products; not only must the product be near-famous (at least in the area in which it is offered for sale), but it cannot be useful, at all—a much higher standard than the design patent standard of functionality<sup>150</sup>—and the infringing product must be likely to confuse the consumer as to the product's source. However, once trade dress rights are established, they last indefinitely, until the good is no longer used in commerce or it is no longer distinctive.<sup>151</sup>

<sup>&</sup>lt;sup>143</sup> Lanham Act, § 43(a), 15 U.S.C. § 1125(a)(1) (2012) ("Any person who, on or in connection with . . . any container for goods, uses in commerce any word, term, name, symbol, or device, or any combination thereof, or any false designation of origin, false or misleading description of fact, or false or misleading representation of fact, which (A) is likely to cause confusion, or to cause mistake, or to deceive ... as to the origin, sponsorship, or approval of his or her goods, services, or commercial activities by another person ... shall be liable in a civil action by any person who believes that he or she is or is likely to be damaged by such act.").

<sup>&</sup>lt;sup>144</sup> Registering trade dress provides a number of advantages, including establishing constructive use and constructive notice, which prevent others from using or registering the registrant's trade dress without contesting the registrant's trade dress rights. Lanham Act § 7(c), 15 U.S.C. § 1057(c).

<sup>&</sup>lt;sup>145</sup> Two Pesos, Inc. v. Taco Cabana, Inc., 505 U.S. 763, 766 (1992) ("To establish secondary meaning, a manufacturer must show that, in the minds of the public, the primary significance of a product feature or term is to identify the source of the product rather than the product itself.") (quoting Innwood Labs., Inc. v. Ives Labs., Inc., 456 U.S. 844, 851 n.11 (1982)).

<sup>&</sup>lt;sup>146</sup> Id.

<sup>&</sup>lt;sup>147</sup> 15 U.S.C. § 1125(a)(3) ("[T]he person who asserts trade dress protection has the burden of proving that the matter sought to be protected is not functional.").

<sup>&</sup>lt;sup>148</sup> *Id.* <sup>149</sup> 15 U.S.C. § 1125(a)(1)(A).

<sup>&</sup>lt;sup>150</sup> Compare trade dress standard of functionality—where any portion of a design that has *any* functional use will be excluded from protection-to the design patent standard of functionality-where a design will be considered "purely functional" if it is the only way to achieve a particular function. See infra note 175 and accompanying text (discussing design patent standard for functionality).

<sup>&</sup>lt;sup>151</sup> 15 U.S.C. § 1125(a)(1) (specifying that the good, service, or container for goods must be "used in commerce").

### 2. Advantages of GUI Trade Dress Protection

- ¶43 Trade dress provides a number of benefits for GUI protection. First, trade dress has specifically been used to protect the "look and feel" of software graphics. Although little case law addresses GUI protection specifically, trade dress protection for web designs has been addressed in the courts,<sup>152</sup> and, due to the similarities between websites and GUIs, these website cases are instructive for GUI trade dress protection. One instrumental case notes that viewing a website "through the lens of copyright law allows the courts to ignore certain intangible elements."<sup>153</sup> The court goes on to say that "[f]ocusing on the look and feel of a web site through the prism of trade dress suits allows courts to protect these attributes."<sup>154</sup> The same can be said for GUIs. Accordingly, trade dress can protect the "interactive elements and the overall mood, style or impression" of websites and GUIs as well as their "static elements such as 'photos, colors, borders, or frames."<sup>155</sup> This broader scope is appealing in contrast to the limited scope of copyright protection, which only extends to exact or near exact copies of the GUI as a whole.
  - 3. Disadvantages of GUI Trade Dress Protection
- Although trade dress can be used to protect a larger scope of a GUI design,<sup>156</sup> it, ¶44 similar to copyright, presents some major limitations in protection. First, trade dress is prohibitively difficult to establish. While copyright attaches as soon as an "original work [is] fixed in a tangible medium" (the second the pencil hits the paper),<sup>157</sup> trade dress rights only attach once the GUI becomes so distinctive that it is recognizable by a majority of consumers (i.e., achieves near-famous status). This provides little to no protection for a newly launched design, and therefore favors companies with the resources to fund large scale marketing campaigns before a product's launch. Further, while design patents help establish trade dress by minimizing market noise (i.e., limiting confusingly similar, alternative products from entering the market so consumers can more quickly associate a particular design with its source), they are expensive to obtain. This creates an even greater divide between the larger companies and well-funded entities who can establish trade dress rights immediately, and those individuals and start-up companies who likely cannot.

¶45

However, even if a GUI does attain trade dress rights, its trade dress claims will likely be preempted if the GUI has obtained a registered copyright.<sup>158</sup> Specifically, if there is a sufficient remedy for GUI infringement under copyright law, all trade dress claims will be barred.<sup>159</sup> In order to survive a copyright preemption challenge, the trade

<sup>&</sup>lt;sup>152</sup> See, e.g., Conference Archives, Inc. v. Sound Images, Inc., 2010 WL 1626072, at \*14 (W.D. Pa. Mar. 31, 2010). <sup>153</sup> *Id.* <sup>154</sup> *Id.* 

<sup>&</sup>lt;sup>155</sup> Id.

<sup>&</sup>lt;sup>156</sup> 15 U.S.C. § 1125(a) (Registration with the USPTO is not required to bring an infringement suit under trade dress law).

<sup>&</sup>lt;sup>157</sup> 15 U.S.C. § 102 (2012).

<sup>&</sup>lt;sup>158</sup> Conference Archives, Inc. v. Sound Images, Inc., 2010 WL 1626072, at \*9 (W.D. Pa. Mar. 31, 2010).

<sup>&</sup>lt;sup>159</sup> On its face, copyright does not limit remedies under other federal statutes. Dastar Corp. v. Twentieth Century Fox Film Corp., 539 U.S. 23, 34 (2003); see also 17 U.S.C. § 301(a) (2012). However, "courts have long limited application of the Lanham Act so as not to encroach on [federal] copyright interests."

dress elements must go above and beyond the scope covered under copyright, and "must be specifically identified and painstakingly selected"<sup>160</sup>—a very difficult feat to achieve.

¶46

Therefore, trade dress protection may be suitable for protecting those GUIs that have not obtained a copyright registration, and that the average consumer can, without a doubt, associate with a particular source. But this means that until distinctiveness is established to secure trade dress rights, GUIs are virtually unprotected unless they rely on an alternative legal theory, such as unregistered copyright or design patents. For this reason, trade dress is, initially, only useful as a secondary form of protection. As such, in practice, design patents, which provide a broader and more clearly defined scope of protection, can serve as a primary means of protection while a GUI design attempts to acquire distinctiveness among its customers.

¶47 In sum, while trade dress rights may protect the GUI as a whole better than copyright, the rights are slow to attach and leave room for early infringers to take advantage. Further, similar to copyright, the boundaries of trade dress protection are uncertain, so trade dress, alone or in tandem with copyright, is not enough to securely protect a GUI from imitation by competitors.

#### С. Design Patents

¶48 In recent years, the landscape of GUI protection has been changing. While few, if any, recent trade dress or copyright cases have directly addressed GUI design infringement, infringement of design patent GUIs recently took "center stage" in the Federal Circuit.<sup>161</sup> In 2012, Apple, Inc. v. Samsung Electronics, Co., Ltd.<sup>162</sup> addressed GUI infringement head on, and, in the aftermath, GUI design patents have been gaining momentum and are emerging as more than just a valuable tool for establishing trade dress rights.<sup>163</sup>

## 1. What is a Design Patent?

¶49 In the 1990's, the Federal Circuit adopted "a much more expansive interpretation of what could be patented,"<sup>164</sup> which led to a surge in software patents that has since only been limited to a small degree.<sup>165</sup> While this shift was typically from copyrights of software code to utility patents,<sup>166</sup> a shift from GUI copyrights to design patents<sup>167</sup> was

*Dastar Corp.*, 539 U.S. at 34; *Conference Archives*, 2010 WL 1626072 at \*12 (citing 1 NIMMER ON COPYRIGHT § 1.01[D][2] at 1–83). And, copyright registration "serves as strong evidence that the [work's] subject matter falls within the Copyright Act, and cannot be protected by trade dress." Conference Archives, 2010 WL 1626072 at \*12 (citing 2 NIMMER ON COPYRIGHT § 7.16 (discussing the significance of copyright registration)).

<sup>&</sup>lt;sup>161</sup> Apple, Inc. v. Samsung Electronics Co., Ltd., 678 F.3d 1314 (Fed. Cir. 2012); see also Christopher V. Carani, Apple v. Samsung: Design Patents Take Center Stage, 5 LANDSLIDE 25, 25 (2013) (providing a brief background on design patents and the procedural history of Apple v. Samsung).

<sup>&</sup>lt;sup>162</sup> Apple, Inc. v. Samsung Electronics Co., Ltd., 678 F.3d 1314 (Fed. Cir. 2012).

<sup>&</sup>lt;sup>163</sup> Carani, *supra* note 161, at 31 ("[D]esign patents no longer can be overlooked if a company, particularly a consumer tech company, wants to have a strong intellectual property portfolio.").

<sup>&</sup>lt;sup>164</sup> See, e.g., AT&T Corp. v. Excel Comme'ns, Inc., 172 F.3d 1352, 1361 (Fed. Cir. 1990).

<sup>&</sup>lt;sup>165</sup> Samuelson, The Uneasy Case, supra note 78, at 1782 (citing Bilski v. Kappos, 561 U.S. 593 (2010)).

<sup>&</sup>lt;sup>166</sup> A utility patent protects how a thing works. MPEP § 1502.01 (citing 35 U.S.C. § 101).

<sup>&</sup>lt;sup>167</sup> A design patent protects how a thing *looks*. MPEP § 1502.01 (citing 35 U.S.C. § 171).

also underway, and this trend continues today (see Figure 8).<sup>168</sup> As of 2013, "the number of GUI design patent applications [has been] growing at the fastest rate of any other area."<sup>169</sup>





¶50

The process for securing a GUI design patent is more rigid than for securing a GUI copyright, which attaches automatically at the time of creation,<sup>170</sup> or GUI trade dress rights, which attach at the moment distinctiveness is reached.<sup>171</sup> For example, while nearly every type of software graphic can obtain a design patent, so long as it is a "design for an article of manufacture,"<sup>172</sup> a design patent is issued only after a careful application and review process by the USPTO. Under Title 35 of the U.S. Code, to qualify for a design patent, a design must be (1) novel,<sup>173</sup> (2) non-obvious,<sup>174</sup> and (3) ornamental.<sup>175</sup>

<sup>&</sup>lt;sup>168</sup> Data shows a sharp increase in design patents since 1994. For data used in graph, *see* PATENT TECHNOLOGY MONITORING TEAM, USPTO, *U.S. Patent Statistic Chart: Calendar Years 1963–2013*, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us\_stat.htm. (last modified Mar. 16, 2014).

<sup>&</sup>lt;sup>169</sup> Tracy-Gene G. Durkin, *Guest Post: What is Next for Design Patents for On-Screen Icons?*, PATENTLY-O (Mar. 6, 2013), *http://patentlyo.com/patent/2013/03/guest-post-what-is-next-in-design-patents-for-on-screen-icons.html* (based on "information provided recently by David Gerk from the USPTO's Office of Policy and External Affairs at an Inn of Court meeting.").

<sup>&</sup>lt;sup>170</sup> See supra note 65.

<sup>&</sup>lt;sup>171</sup> See supra note 145 and accompanying text.

<sup>&</sup>lt;sup>172</sup> 35 U.S.C. § 171.

<sup>&</sup>lt;sup>173</sup> 35 U.S.C. §§ 102-03.

<sup>&</sup>lt;sup>174</sup> *Id*.

<sup>&</sup>lt;sup>175</sup> 35 U.S.C. § 171 (2006) ("Patents for Designs," which states that "[w]hoever invents any new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title [35 U.S.C. §§ 1 *et seq.*]" and "[t]he provisions of this title relating

**¶51** 

Establishing all three design patent requirements is critical during both the prosecution (the application process) and litigation (defending or enforcing) stages. First, the novelty requirement provides that the design must be "new" and "original" and that an "average observer [must] take[] the new design for a different, and not a modified, already existing design."<sup>176</sup> Second, to meet the non-obvious requirement, a design must have been "unanticipated" at the time of its creation in light of earlier designs called "prior art."<sup>177</sup> And third, to be ornamental, a design cannot be *purely* functional.<sup>178</sup> The test to determine if something is purely functional is to ask whether the design is entirely dictated by its function. If there are *anv* other design options that could still achieve the same function. then the design element is ornamental, and therefore within the scope of design patent protection. However, if there is only one way to achieve the particular function, the design element is purely functional, and therefore not within the scope of protection. In sum, a design can obtain design patent protection even if it is simultaneously ornamental and functional, so long as it is not *purely* functional. This is a benefit to GUIs, which straddle both aesthetic and functional worlds, as this standard provides a wider range of protection than trade dress's more stringent functionality standard that requires a design element to be *entirely* non-functional.<sup>179</sup> Once a design patent is approved, it becomes effective from the date of its initial application and lasts for fourteen years.<sup>180</sup>

The scope of a design patent, i.e., its "claimed design," is more clearly defined than that of copyright or trade dress. A design patent's scope is based on a drawing or set of drawings, which, through the use of dotted lines, solid lines, and shading, can specifically claim protection over certain elements of a design.<sup>181</sup> Specific materials, colors and even precise gradients can be expressly claimed.<sup>182</sup> These tools allow patent holders to prevent infringers from copying the most important aspects of their designs. For example, Google was issued a design patent for its Internet home screen in 2009 (see Figure 9).<sup>183</sup> As shown, the term "Google" has been explicitly disclaimed—by the use of dotted lines which means that the patent would be infringed if someone copied the entire layout but replaced "Google" with another name. This strategy protects the design from careful infringement.

<sup>182</sup> See Design Patent Application Guide, USPTO, http://www.uspto.gov/patents/resources/types/ designapp.jsp#color (last visited June 29, 2014).

<sup>183</sup> Graphical User Interface for a Display Screen of a Commc'ns Terminal, U.S. Patent No. D599,372 (filed Mar. 7, 2006).

to patents for inventions shall apply to patents for designs, except as otherwise provided.").

<sup>&</sup>lt;sup>176</sup> Thabet Mfg. Co. v. Kool Vent Metal Awning Corp., 226 F.2d 207, 212 (6th Cir. 1955). <sup>177</sup> 35 U.S.C. §§ 102–03 (2006).

<sup>&</sup>lt;sup>178</sup> 35 U.S.C. § 171 (2006) (emphasis added).

<sup>&</sup>lt;sup>179</sup> See supra note 150 (comparing trade dress and design patent functionality standards).

<sup>&</sup>lt;sup>180</sup> 35 U.S.C. § 173 (2006).

<sup>&</sup>lt;sup>181</sup> See MPEP § 1503 (8th ed. Rev. 5, Aug. 2006); see also Christopher V. Carani, Apple v. Samsung: Intelligence on Apple's U.S. Design Patent Offensive, 82 PAT. TRADEMARK & COPYRIGHT J. (BNA) 906, 910 (Oct. 2011) ("Sophisticated use of [the dotted line] technique (particularly in conjunction with multiple applications) can greatly increase the effectiveness of a strategic design patent prosecution strategy.").



¶52 The subject matter of design patents includes both static and animated computer graphics,<sup>184</sup> such as computer-generated icons, changeable computer-generated icons (.gif files) and animations, which can be delineated in a design patent as multiple images shown in a sequence.<sup>185</sup> As such, the transitions between GUI screens can be protected with a design patent, so long as the design patent description calls out the transitional nature of the sequence. The "in-between" frames, however, are not included in the claimed design. One example of this is the introductory animation of Apple's iBook mobile application, in which the front cover of a digital book opens to display a page of text underneath (see Figure 10).<sup>186</sup>



<sup>&</sup>lt;sup>184</sup> MPEP § 1504.01(a) (8th ed. Rev. 9, Oct. 2012) (stating that "design applications for computergenerated icons must comply with the 'article of manufacture' requirement of 35 U.S.C. [§] 171.").

Figure 9

<sup>&</sup>lt;sup>185</sup> MPEP § 1504.01(b) (8th ed. Rev. 9, Oct. 2012).

<sup>&</sup>lt;sup>186</sup> Display Screen or Portion Thereof with Animated Graphical User Interface, U.S. Patent No. D670,713 (filed Dec. 19, 2011).

The infringement standard for whether a design infringes a design patent is whether an "ordinary observer"—not an expert, but an ordinary person familiar with the specific product—finds the allegedly infringing design (the actual product) and the drawings in the design patent to be "substantially the same."<sup>187</sup> While the scope of protection does not encapsulate the entire "look and feel" of the design—in that it specifically excludes protection over the in-between images of an animation—the scope of design patent protection still reaches far beyond that of copyright. This allows a GUI creator to protect the non-literal synergies that may be left unprotected under copyright and trade dress.

Another powerful feature of design patents is that their scope can be expanded through the use of continuation patents. A continuation patent allows a design patent holder to add slight variations or a different focus of protection to an already patented design.<sup>188</sup> For example, a designer that obtains a design patent for a *three*-legged chair can, before the patent application is approved, file a "continuation design patent" for a "patently similar" chair design with *four* legs.<sup>189</sup> Continuation patents, which become retroactively effective from the date of the *original* design patent (i.e., from the filing date of the three-legged chair), are often used strategically to stay one step ahead of infringers. A prime example of this strategy is the string of continuation patents that Apple acquired for its original iPod device.<sup>190</sup> The diagram below (Figure 11) shows how Apple issued multiple continuation patents of its iPod design over a period of years, making sure to file a subsequent continuation patent application while the previous application was still under review.<sup>191</sup>

<sup>&</sup>lt;sup>187</sup> Gorham Co. v. White, 81 U.S. 511, 528 (1871) (establishing design patent infringement standard as, if "in the eye of an ordinary observer, giving such attention as a purchaser usually gives, two designs are substantially the same, if the resemblance is such as to deceive such an observer, inducing him to purchase one supposing it to be the other, the first one patented is infringed by the other").

<sup>&</sup>lt;sup>188</sup> See MPEP § 201.03 (8th ed. Rev. 5, Aug. 2006) (stating that a continuation application for a design patent may be filed under 37 CFR § 1.53(d)).

<sup>&</sup>lt;sup>189</sup> Id.

<sup>&</sup>lt;sup>190</sup> See, e.g., Media Device, U.S. Patent No. D659,671 (filed Oct. 24, 2011) (listing under "Related U.S. Application Data" the entire string of Apple Inc.'s continuation patents beginning with U.S. Patent No. D516,576 (filed June 24, 2004)).

<sup>&</sup>lt;sup>191</sup>© 2012 Rachel Stigler. For images used in diagram, *see* U.S. Patent No. D516,576 fig. 1 (filed June 24, 2004); U.S. Patent No. D538,822 fig. 1 (filed Nov. 9, 2005); U.S. Patent No. D558,784 fig. 1 (filed Dec. 8, 2006); U.S. Patent No. D589,979 fig. 1 (filed Dec. 3, 2007); U.S. Patent No. D593,536 fig. 1 (filed Oct. 10, 2008); U.S. Patent No. D615,526 fig. 1 (filed May 26, 2009); U.S. Patent No. D629,786 fig. 1 (filed Apr. 8, 2010); U.S. Patent No. D653,648 fig. 1 (filed Dec. 13, 2010); and U.S. Patent No. D659,671 fig. 1 (filed Oct. 24, 2012).



### Figure 11

- This powerful flexibility is available only to design patents, making this form of GUI protection much more potent than that of copyright and trade dress. Due to this and recent court decisions, design patents are becoming even more potent.
  - 2. Design Patents Gain Strength
- ¶56 In the last few years, design patent protection has gained strength in the courts. In 2008, the Federal Circuit, in *Egyptian Goddess v. Swisa*, strengthened design patent rights by rejecting the "point of novelty" test.<sup>192</sup> This test allowed infringers to carefully avoid design patent infringement by simply leaving out the "novelty" elements that were used to obtain the design patent rights in the first place—novelty refers to the requirement that the design be new, ornamental, and original.<sup>193</sup>

<sup>&</sup>lt;sup>192</sup> Egyptian Goddess, Inc. v. Swisa, Inc., 543 F.3d 665, 678 (Fed. Cir. 2008) (rejecting the point of novelty test and re-establishing the ordinary observer test as the test for design patent infringement).

<sup>&</sup>lt;sup>193</sup> See, e.g., Perry J. Saidman, Egyptian Goddess *Exposed!: But Not in the Buff(er)*, 90 J. PAT. & TRADEMARK OFF. SOC'Y 859, 884–85 (2008) (stating that eliminating the point of novelty test in *Egyptian Goddess* is a "significant boost to design patentees").

**157** Then, in 2012, *Apple, Inc. v. Samsung Electronics, Co., Ltd.*<sup>194</sup> paved the way for future design patent strength by further refining software and hardware designers' certainty of "how close is too close," and by more firmly establishing the legitimacy of design patent protection.<sup>195</sup> In this headline-grabbing case, a jury found that Samsung's smartphone home screen designs—specifically, its rows of buttons with rounded corners—had infringed Apple's GUI design patent, and originally awarded Apple nearly one billion dollars in damages.<sup>196</sup> This sent shock waves through the technology world, further clarified how close is too close for infringement, widened the infringement buffer zone, and bolstered the rule that companies must either pay, i.e., license the desired design, or innovate . . . or suffer the consequences.<sup>197</sup>

## 3. Advantages of GUI Design Patents

¶58 With their well-defined scope and growing strength, there are a number of advantages to using design patents to protect GUI designs. One important feature of design patents is that the infringement standard of a design patent is lower than of copyright. In copyright, the test for infringement can be largely unpredictable, and is often up to experts, judges, and juries to filter out unprotected elements, determine whether an allegedly infringing design is "substantially similar" to those elementsindividually or as a compilation-and what impact such copying would have on the market.<sup>198</sup> The test for design patent infringement, however, is whether an "ordinary observer," not an expert, finds the allegedly infringing design and the design patent design "substantially the same."<sup>199</sup> This infringement standard is more closely related to that for trade dress, but without the requirement that the design be near famous. Further, unlike copyright and trade dress, the look of a design does not have to be completely separate from its function to receive protection.<sup>200</sup> In addition, design patents' laser-like scope, delineated through the use of specific drawing mechanisms to focus on the most important aspects of a design, along with the ability to increase the scope through the use of continuation patents, provides advantages over any alternate mean of GUI protection.

### 4. Disadvantages of GUI Design Patents

Despite the advantages of using design patents to protect GUI designs, design patents also have some hefty drawbacks, which make them less than ideal for protecting

<sup>&</sup>lt;sup>194</sup> Apple, Inc. v. Samsung Electronics Co., Ltd., 678 F.3d 1314 (Fed. Cir. 2012).

<sup>&</sup>lt;sup>195</sup> Christopher V. Carani, *Design Patent Lessons from* Apple v Samsung, MANAGINGIP 32, 35 (Sept. 2012), http://patentlyo.com/media/docs/2013/01/carani.apple.pdf.

<sup>&</sup>lt;sup>196</sup> Awards of this size are possible because, unlike damages for utility patents, damages for design patents can include engorgement of the infringer's profits. *See* Ian Sherr, *U.S. Judge Reduces Apple's Patent Award in Samsung Case*, WALL ST. J., Mar. 1, 2013,

http://online.wsj.com/news/articles/SB10001424127887323478304578334540541100744 (stating Apple's original one billion dollar award, and noting that a federal judge later lowered the award by nearly 43%). <sup>197</sup> See Carani, supra note 161, at 31.

<sup>&</sup>lt;sup>198</sup> See supra Part III.A. (Current GUI Protection: Copyright).

<sup>&</sup>lt;sup>199</sup> Gorham Co. v. White, 81 U.S. 511, 528 (1871) (establishing design patent infringement standard).

<sup>&</sup>lt;sup>200</sup> Design Patent: What Are the Advantages?, SAIDMAN DESIGN LAW GROUP, http://c348.teamholistic.net/tools design patent#55 (last visited June 29, 2014) ("The advantage of design

http://c348.teamholistic.net/tools design patent#55 (last visited June 29, 2014) ("The advantage of design patents over copyright is that there is no requirement in the patent law that the appearance of the product be 'separable' from its functional features.").

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GUIs. First, they are expensive—typically two to three thousand dollars per patent<sup>201</sup> which puts individuals and small companies at a disadvantage. Also, the protection lasts for fourteen years, and while this is more reasonable than copyright's seventy or more years of protection, this is much longer than is necessary for the rapidly changing software industry.<sup>202</sup>

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Further, fear of patent litigation may have a chilling effect on creativity. Larger companies can transfer the cost of patent litigation on to the consumer, thereby minimizing their risk in the event of infringement. Smaller companies and individual designers, however, do not have this option and may be discouraged from designing, in fear that, without the resources to do a proper patent search, they may be risking litigation each time they invest in developing a GUI design. Therefore, design patents may overprotect GUIs, and in effect, may stifle creativity and innovation.

**¶61** 

Another downside to design patents is that they may create an impediment to standardization. Design patents' wide scope may chill software innovation, especially for competitors wishing to improve upon existing products. As previously noted, many believe that incremental improvements to existing software designs are better for technological innovation, and that widely different designs actually hinder software's evolution.<sup>203</sup> As such, this may result in radically different but incompatible products, increased cost to consumers, and a lack of quality and variety of products on the market.<sup>204</sup> This may be remedied, however, by providing a shorter duration for GUI design patents that would allow second comers and society to more quickly benefit from the work. Decreasing design patent duration may help to return equilibrium to the constitutional balance between the rights of creators and society.

**¶62** 

While at least one commentator suggests that design patents should be eliminated, arguing that protection afforded by copyright and trade dress is enough,<sup>205</sup> design patents provide a more clearly-defined scope of GUI protection than copyright or trade dress (individually or combined), are gaining momentum in the courts and in the software

<sup>&</sup>lt;sup>201</sup> A basic design patent application (non-expedited) costs at least \$1300, not including prosecution fees. See Fee Schedule, USPTO (effective Jan. 1, 2014),

http://www.uspto.gov/web/offices/ac/qs/ope/fee010114.htm; see also 37 C.F.R. § 1.16(b) (basic filing fee for a design patent is \$180, and \$180 for each continuation patent application); 37 C.F.R. § 1.16(1) (design patent search fee of \$120); 37 C.F.R. § 1.16(p) (design patent examination fee of \$460); 37 C.F.R. § 1.18(b)(1) (design patent issue fee of \$560); 37 C.F.R. § 1.17(k) (fee for requesting an expedited examination of a design patent application of \$900).

<sup>&</sup>lt;sup>202</sup> Daniel H. Brean, Enough is Enough: Time to Eliminate Design Patents and Rely on More Appropriate Copyright and Trademark Protection for Product Designs, 16 TEX. INTELL. PROP. L.J. 325, 377 (2008) ("Preventing all uses of a design for [a design patent's] full fourteen-year term could severely hinder another designer's ability to compete in the market.").

<sup>&</sup>lt;sup>203</sup> See generally Bill Curtis, Engineering Computer "Look and Feel": User Interface Technology and Human Factors Engineering, 30 JURIMETRICS J. 51, 60, 71, 77 (1989) (discussing the human factors engineering that goes into user interface design); Samuelson, Manifesto, supra note 40, at 2331 ("Even the conceptual metaphors embodied in software are typically incremental in character. Word processing paper is an extension of traditional paper[, for example]").

<sup>&</sup>lt;sup>204</sup> See Risch, supra note 32, at 84 n.143 (citing Peter S. Menell, An Analysis of the Scope of Copyright Protection for Application Programs, 41 STAN. L. REV. 1045, 1068 (1989)) (stating that "broad copyright protection may lead companies to adopt incompatible and nonefficient standards to avoid reuse"); see also generally Brean, supra note 202, at 374-81 (providing in "Part IX. Time for Design Patents to Gracefully Step Down," the advantages of trademark and copyright protection over design patent protection). <sup>205</sup> Brean, *supra* note 202, at 379.

industry, and are becoming faster and cheaper to obtain.<sup>206</sup> Despite this, design patents, too, fail to provide the right balance of exclusive rights and limitations to spur GUI innovation. While none is perfect, each of the three existing legal regimes—copyright, trade dress, design patents—provide individual advantages that are well suited for GUI protection. As such, a hybrid solution that draws from each of these legal theories would better protect GUIs than the overlapping protection that is currently available.

## IV. THE PROPOSAL: A GUI HYBRID

¶63 It is not novel that different types of intellectual property call for different degrees and types of protection. Trade dress, copyright and design patents all incorporate varying concentrations of "exclusive rights" and "limitations." Similarly, GUIs—which uniquely exist at the intersection of computer software (patents/copyright), artistic expression (copyright), and commercial identity (trade dress)—require legal protection that similarly exists where patents, copyright, and trade dress intersect. In its current state, GUI protection under these legal theories—although overlapping—is filled with gaps and fails to balance policy concerns with the constitutional goal to spur innovation. Instead, a hybrid solution—one specifically tailored to GUI design and drawn from current GUI legal theories-should be implemented.

## A. So, How Should GUIs Be Protected?

"[R]espected commentators from both legal and technical fields have spoken out in favor of a new paradigm for the protection of computer software" beyond that currently offered by design patents, copyright, and trade dress.<sup>207</sup> Some commentators believe that no current legal theories are a good fit for GUIs.<sup>208</sup> Yet, while no single regime is ideal, a GUI designer about to launch a product today must choose from the legal options currently available. As such, GUI designers must rely on a mishmash of the three legal regimes, which is inadequate and messy.

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**¶64** 

Instead, GUI-specific protection should be implemented and should exist at the intersection of the two viewpoints presented at the outset of this paper. Extremely broad protection would be stifling to future innovators, and protection that is too narrow would continue to encourage copycat production. A GUI legal theory should incorporate elements of existing regimes, extend protection beyond the current scope, provide a clear boundary to prevent a "chilling effect" on future innovation, and force second comers to

<sup>&</sup>lt;sup>206</sup> A "rocket docket" design patent can be obtained in as little as three months. Dennis Crouch, *Design* Patents are Still Relatively Quick, PATENTLY-O (Jan. 20, 2013),

http://patentlyo.com/patent/2013/01/design-patents-are-still-relatively-quick.html (providing a chart showing the filing-to-issuance duration for design patents from 2010–2012, and stating that "Nike's Design Patent No. D659,988 issued last year after less than three-months in prosecution as part of the design patent 'rocket docket."").

<sup>&</sup>lt;sup>207</sup> Rolling, *supra* note 15, at 158 (citing Samuelson, *Manifesto*, *supra* note 40, at 2365-2420, 2429-31; Ken Liebman & Gary Frischling, The Shape of Things to Come: Design-Patent Protection for Computers, 11 COMPUTER LAW 1, 9 (1992); Irwin R. Gross, A New Framework For Software Protection: Distinguishing Between Interactive And Non-Interactive Aspects of Computer Programs, 20 RUTGERS COMPUTER & TECH. L.J. 107 (1994); Mark Aaron Paley, A Model Software Petite Patent Act, 12 SANTA CLARA COMPUTER & HIGH TECH. L.J. 301 (1996); Pamela Samuelson, Counterpoint: An Entirely New Legal Regime is Needed, 2 COMPUTER LAW. 11, 12 (1995)). <sup>208</sup> Samuelson, *Manifesto, supra* note 40, at 2332-33.

think outside the box. This can be done most efficiently by adding a sui generis chapter to the Copyright Act of 1976. This is a familiar route for Congress, which has similarly added specific copyright chapters for both microchip<sup>209</sup> and boat hull designs.<sup>210</sup>

## B. Hello, GUI Sui Generis, Pleased to Meet You

While the copyright statute may be the best location for new GUI-specific provisions, this new GUI theory need not be predominantly based in copyright law. Instead, a hybrid regime that is specifically tailored for GUIs should draw from the best-suited features of design patent, trade dress, and copyright law, and should inform the new GUI regime's (1) attachment of rights, (2) scope of protection, (3) infringement standard, and (4) duration, to fulfill the constitutional goal of incentivizing GUI innovation.

## 1. Attachment of Rights

- 167 The software industry is incessantly changing, and GUI design is no different. To keep up with the rapid pace of design, an equally expeditious registration process for GUI protection is necessary. Currently, GUI rights can attach at the time of fixation (copyright), after a three to fifteen month registration process (design patents), or when the GUI attains "distinctiveness" (trade dress). None of these attachment standards is ideal. Instead, to facilitate the speed of creation of GUI designs, rights should attach at the time of creation, using the copyright standard of fixation, but a registration process, similar to that of design patents, should be required within a short time, e.g., three months, after creation. This registration process will provide GUI designers with a database of designs upon which to base their infringement risk. The registration process should be one that a GUI designer can easily execute using guidelines provided by the USPTO. Protection would become effective from the date of creation, and not the date of filing, as is the current attachment date for design patents.
  - 2. Scope

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The requirements for the above-noted registration will set forth the scope of protection from infringement. First, the registration process will be similar to that of design patents, in which a work must be a "design for an article of manufacture" and must be novel, non-obvious, and ornamental.<sup>211</sup> The USPTO will handle the registration process in the same manner as design patents. Further, the drawings that must be registered will specify the GUI's particular scope of protection, using the same drawing tools, such as dotted lines, solid lines, and shading that are currently used for design patent applications. Single applications can include multiple embodiments of a single

<sup>&</sup>lt;sup>209</sup> In 1984, the Semiconductor Chip Protection Act amended title 17 of the *United States Code* to add a new chapter 9 entitled "Protection of Semiconductor Chip Products." Trademark Clarification Act of 1984, Pub. L. No. 98-620, 98 Stat. 3347.

<sup>&</sup>lt;sup>210</sup> In 1998, the Vessel Hull Design Protection Act added chapter 13, entitled "Protection of Original Designs," to title 17. The Vessel Hull Design Protection Act is title V of the Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860, 2905. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860, 2905 (1998).

<sup>&</sup>lt;sup>211</sup> 35 U.S.C. § 171 (2006).

design, in the same way design patents applications currently permit multiple embodiments. This will allow a designer to focus the scope of protection on those elements the designer believes are most likely to be infringed. This will provide flexibility for the GUI designer, so that the designer can adequately protect, as desired, both individual elements and the GUI as a whole.

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Further, the scope of this new GUI hybrid regime will incorporate the design patent standard for functionality, excluding only "purely functional" elements from the scope of protection.<sup>212</sup> The refusal by copyright and trade dress to protect a work's functional elements is alarming, and excludes from protection some of the most innovative and protection-worthy designs. Minimalist design, for example, due to its seemingly effortless hybrid of form and function, is not protected under copyright law, though it often takes designers tremendous skill and effort to achieve such a design. Similarly, GUI designs, which are efficient and functional, are often minimalist by nature, as "userfriendliness," similar to minimalist design, looks effortless but takes great skill to achieve. As such, to effectively protect such GUIs, a GUI's semi-functional elements must be within the scope of protection, the design patent standard of functionality. A design will be protected unless the function of that element cannot be achieved through an alternate design. The scope of protection will temporarily include basic building blocks, and because the duration of protection for the proposed GUI hybrid regime will be shorter (as will be discussed below), this will not create an impediment to creation as it would under the current legal regimes. Original designers of building blocks will receive exclusive rights over these design elements for a short period of time without the option to renew, and the elements will then enter the public realm for the benefit of society. In addition, both static and animated GUIs will be within the scope of protection, and will be delineated in the registered drawings in the same way currently employed for design patents.

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Further, implementing a registration process for the hybrid GUI regime that draws from the existing design patent registration process will facilitate administrative workability by transferring the industry's understanding of the current legal regimes into the new hybrid regime, and thereby minimizing switching costs.

3. Infringement Standard

The standard for GUI design infringement must be lower than current copyright protection, which limits infringement to substantially similar copies of specific original elements and exact copies of compilations. Instead, the standard should be based upon design patents' "ordinary observer" test for infringement, where a work is infringing if, in the eye of the ordinary observer, the two works are "substantially the same."<sup>213</sup> This broadens the scope beyond a useless "exact copy" standard, while defining the scope—through the hybrid's registration process—more clearly than the "look and feel" standard of trade dress rights. This infringement standard can apply to the GUI as a whole and to individual elements, based on how they are specifically claimed in the registration drawings.

<sup>&</sup>lt;sup>212</sup> See supra note 150 (defining "purely functional").

<sup>&</sup>lt;sup>213</sup> See supra note 187 and accompanying text.

¶72 Another aspect of the infringement standard to consider is whether to permit the registration of independent creations, i.e., creations by two individual designers who simultaneously create substantially similar designs without knowledge of the other design. On one hand, allowing an independent creation defense for GUIs would reduce the likelihood of a chilling effect, especially for individual designers who may not have the resources to do a thorough check of the GUI prior art. The alleged infringer would have the burden to prove that this was, in fact, independent creation and not copying, which would incentivize independent creators to keep adequate records of their creation process. However, this could also provide a loophole for infringers to carefully prepare evidence that they did not copy when the infringers did, in fact, copy. To resolve this issue, the GUI sui generis regime could borrow from copyright's "copying in fact" doctrine, where if the two works are so close that it is very unlikely one was not copied from the other, then the work will be treated as if it was copied, in fact. The important aspect here is to clearly designate a larger scope of protection to force competitors to design new and innovative products, rather than just recreate what is already on the market.

## 4. Duration

As established above, the current duration of GUI protection is too long. Copyright ¶73 lasts for more than seventy years, design patents last for fourteen years, or more through the use of continuation patents, and trade dress lasts indefinitely, so long as consumers continue to identify the "container of goods" with the specific source. For GUI designs, a shorter term of three years, for example, with the option to renew, would better maintain the balance between the GUI creators' interests (to recoup their investment) and those of the consuming public (to have works released into the public domain in a timely manner). The GUI protection could be renewed every three years, with a maximum of, e.g., nine years, so long as the design remains in use in commerce and the design has not become a standard building block necessary for use in others' creations. This building block theory could be based upon copyright's merger doctrine, where if there is only one or a limited number of ways to achieve a certain function, that design element will not receive protection. The difference here is that under the new GUI regime, the original creator will have the benefit of exclusivity over the building block for the first three years of use. Also, if the original creator is no longer using the building block in commerce, competitors may petition for immediate use of the element. This will better reward creators for their innovations, while returning these innovations more quickly into the public realm, thereby better balancing the creator-society trade-off.

## C. Benefits and Potential Drawbacks of the Hybrid Proposal

¶74 This GUI sui generis regime offers a number of benefits over the current overlapping regimes. First, this proposal provides a slightly larger scope of protection that will better incentivize creators to create, while forcing competitors to be more innovative than copying the latest market trends. Second, it provides a more clearly defined scope of protection, which will minimize the likelihood for a chilling effect on future innovations. Third, the proposal offers a shorter duration that is more attuned to the needs of a rapidly changing software industry. GUI designs will not be exclusively

owned by a single designer for over a generation or indefinitely, but will rather provide a creator with the use-it-or-lose-it right to their creation for a limited time. Fourth, instilling a registration process for all GUIs will provide second-generation designers a much clearer understanding of infringement risk, minimizing chilling effects. And finally, providing protection from the date of creation fills in current gaps in protection, where early protection (copyright) is too weak and later protection (trade dress, design patents) is too strong. The balance between the strength and scope of a GUI designer's "exclusive rights" and the "limitations" on that exclusivity would be better maintained under this proposed GUI regime than with the current piecemeal system.

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The proposed GUI sui generis regime also presents a few potential problems. For example, introducing a new regime to an already overlapping set of legal theories without tweaking the availability of the other theories may exacerbate the current situation. For example, if GUIs remain eligible for design patent protection, this new regime would be meaningless; designers would simply use the new hybrid regime for a few years and then once that protection expired, extend protection under a design patent. As such, availability of design patents, in their current state, should no longer be available to GUI designs. All current GUI design patents would either be grandfathered in, or would be required to transition over to the new hybrid registration.

¶76 Similarly, copyright and trade dress rights for GUI designs may also need to be limited. If left as-is, copyright would not present a problem, since the scope of GUI protection is larger under the hybrid regime and, like copyright, attaches at the time of creation. Leaving trade dress rights available to GUIs might be problematic, however, since trade dress protection has the ability to last indefinitely. Even so, trade dress covers a different realm than the hybrid solution—primarily protecting the commercial identity of a work. To continue to provide this protection, which may not entirely be covered under the hybrid regime, this proposal would leave trade dress rights in place for as long as the work is distinctive (the current trade dress duration), with an exception. Similar to the preemption rule in copyright, if a GUI designer would like to rely on trade dress to protect a GUI design, the GUI must have been registered under the hybrid regime, and the GUI owner must show, with specificity, which elements of a trade dress claim are not protected under the rights afforded by the GUI sui generis provisions. This would provide adequate extended protection for GUI designs as commercial identifiers.

While no legal regime will be one hundred percent perfect in every case, a hybrid of the current regimes is better suited for the unique nature of GUIs, and will better incentivize innovation than the current legal regimes. Benefits and drawbacks result from any proposal, but here, the benefits of the proposed GUI hybrid largely outweigh the potential problems.

### CONCLUSION

**178** GUIs will continue to be instrumental in the technology marketplace, and providing the proper balance of intellectual property protection will be necessary to adequately spur further GUI innovation. A hybrid system that draws from current copyright, trade dress and design patent regimes; balances the potency of infringement protection with a short, renewable term; and more clearly establishes the scope of protection; is better tailored to the needs of GUI design than the current overlapping and inadequate legal regimes. A clearly defined legal theory would support innovation while balancing creators' rights

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and would allow companies to more confidently invest in design development. If designers know how closely they can design, risk will be reduced, and chilling effects will be minimized. In turn, the industry's attention will be diverted from its obsession of recreating existing successful designs, towards innovation, which, after all, is the ultimate purpose and the constitutional goal upon which intellectual property protection is based.

